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W. H. Mumford.

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VOLUME XXXVIII



NUMBER I



DANIEL HUDSON BURNHAM AND HIS ASSOCIATES

BY PETER B. WIGHT

NO account can do justice to the work and influence of Daniel Hudson Burnham as an architect which does not include a reference to the many able men who were associated with him during his professional career of thirty-nine years. His personality and early life were described in an address by the present writer before the Illinois Chapter of the American Institute of Architects, of which he was a member, on the eleventh of June, 1912, which was printed in full in this magazine in the issue of August of that year. It is therefore suggested that the reader who may fortunately possess that number and desires a more complete record of his life and achievements, can refer to it for many facts which are not repeated herein. His associates always worked with him as a compact unit, both those who were his partners during three dis-

tinct periods of his life, and the many assistants and employees who also bore their part in composing these units; among whom might be mentioned some of the ablest members of the profession in the Middle West now practicing. For Mr. Burnham was above all things an organizer, and no human being could ever have accomplished all that he did without efficient organization.

In John Wellborn Root, his first partner, he found a man endowed by nature with one of the most highly developed artistic instincts. He was a lover of everything that was beautiful, and as a musician was possessed of unaffected and very remarkable accomplishments. It has always been recognized that music and architecture go together in the best developed minds. Mr. Root was born in Atlanta, Georgia, educated in New York City and Paris, and his work as a drafts-



A CORNER IN MR. BURNHAM'S STUDY AT EVANSTON, ILL., SHOWING THE MANTEL FROM HIS "SHANTY" ON THE WORLD'S FAIR GROUNDS, HIS PORTRAIT BY ZORN, AND A HEAD BY SAINT-GAUDENS.

man was in New York City and Chicago. The firm was known as Burnham and Root from 1873 to 1892. In 1890, when the scheme was developed to hold the World's Columbian Exposition in Chicago and the association which was to manage it was organized, Mr. Root was elected as "Architect in Chief," the intention being that he should design all the buildings and should act in concert with the late Fred Law Olmsted as landscape designer. After many tentative sketches had been made, during which time Mr. Root did all his work in the then large office of Burnham and Root in the Rookery Building, Chicago, under the eye and with the benefit of consultation with Mr. Burnham, it was decided to call in the services of many American architects to design special buildings, and Mr. Root's duties became practically those of consulting architect. Mr. Root's sudden and lamented death occurred in the winter of 1891 and 1892 during a consultation with the architects who had been selected, and just before the necessity arose for organizing all the forces necessary for carrying out this great undertaking. It left Mr. Burnham without a partner and the Exposition without an executive head for construction work. The Exposition Company thereupon decided not to appoint a new Architect in Chief or consulting architect, and Mr. Burnham, having consented to assume not only the unfinished work of Mr. Root but also that of executive in charge of organization and construction, in fact everything except exhibits, was appointed Director of Works. As such he gave his whole time to the business until the close of the Exposition, leaving the private office work of the firm in charge of Dwight Heald Perkins.

Soon after Mr. Burnham assumed these duties he appointed as his first assistant Ernest R. Graham, and the large corps of heads of departments who worked with him in the organization and execution of this great work. Mr. Graham is now his successor as head of the firm of architects known as Graham, Burnham & Co. About one year after the close of the Exposition, in 1894, Mr.

Burnham selected as partners, from the large corps of assistants who had worked with him then, Mr. Graham, Charles B. Atwood, who had been chief designer, and E. M. Shankland, chief engineer. On the death of Mr. Atwood, in 1896, this firm was continued until 1898, when it was reorganized by the retirement of Mr. Shankland, and Mr. Graham became his sole partner.

In 1908, as a means of relieving somewhat Mr. Burnham's onerous responsibility, the office work was organized under the general direction of E. R. Graham into the three departments of designing, working plans, and superintendence, in charge of Peirce Anderson, Edward Probst and H. J. White, respectively, each of whom was given an interest in the profits of the firm. This office system has remained in force until the present time. In 1910 Hubert Burnham and D. H. Burnham, Jr., were made members of the firm, which then consisted of D. H. Burnham, E. R. Graham, Hubert Burnham and D. H. Burnham, Jr. Peirce Anderson, Edward Probst and H. J. White continued in the capacity above stated. This arrangement continued until Mr. Burnham's death in 1912, after which time the business was reorganized under the firm name of Graham, Burnham & Co., comprising E. R. Graham, Peirce Anderson, Edward Probst, H. J. White, Hubert Burnham and D. H. Burnham, Jr.

Peirce Anderson was originally trained as an electrical engineer, and his first acquaintance with Mr. Burnham was when he called upon him for advice if he should follow that profession, in the summer of 1894. Mr. Burnham told him how the Beaux Arts training in the architects who had been associated with him on most of the work at the Fair, had convinced him that Paris was the best place to study architecture, and he advised Mr. Anderson to adopt architecture as his profession and to go there and study it. He added further that when he should return he would find a place in his office. He took this advice, went to Paris, and returned in 1899 (Diplômé), when he entered the office and has been there ever since. He was

with Mr. Burnham at Manila in 1903, and went over the ground with him in studying the problem of improving that city, and the hill city at Baguio. They worked out the plans for improvements in the island of Luzon on the steamer bound for home and completed them in the Chicago office. After the death of Mr. Burnham, Mr. Anderson was appointed to fill his place as a member of the National Fine Arts Commission by President Taft.

Howard J. White came to the office in 1899 and was employed as draftsman and superintendent for twelve years, and earned his position in the firm by hard and faithful work. He supervised the erection of the Frick Annex Building in Pittsburgh, and after that had control of all the outside building operations of the firm until he was taken into the partnership, since which time he has had full charge of this branch of the work.

Edward Probst came to D. H. Burnham & Co. as a draftsman in 1898, equipped with an architectural education of fourteen years in various offices and as practicing architect. In 1904 he was appointed chief of the Drafting Department, and has been in charge of the preparation of working plans and specifications for all the buildings designed since that time.

Hubert Burnham graduated at the U. S. Naval Academy in 1905, and served as an officer in the U. S. Navy six months, and then resigned. He took up work in the office of his father for a short time, and entered the Ecole des Beaux Arts in 1906. He returned to Chicago in 1907 and was draftsman in the office until 1909, and in that year returned to Paris. He completed his course and was Diplômé in 1912, since which time he has been a member of the firm.

D. H. Burnham, Jr., entered Harvard University in 1905, in the Department of Architecture at Lawrence Scientific School. He left Harvard in 1907 and after several months devoted to study in Europe with his father and his brother Hubert, he returned to Chicago and started in active work with D. H. Burnham & Co., although he had spent his summers for several years previously in

construction work of the firm. From 1907 to 1912 he was engaged in supervising construction work for D. H. Burnham & Co., and was made Assistant General Superintendent in 1909.

Let us return now to the conditions which surrounded Mr. Burnham at the beginning of his career. The great Chicago conflagration of the year 1871 was the event which inaugurated a new epoch in the history of that city. Chicago had been a thriving Western city up to that time, and its architecture was essentially "Western," with such exceptions as would naturally be found in a city of 300,000 population. Its best wholesale stores did not exceed five stories in height, though there were two or three of six stories, and one prominently large marble building of the latter class. Its best dwellings were generally isolated, with garden surroundings, and most of them of wood. Its churches were pretentious and ugly, many of them built of the white limestone found only fifty miles away, which at that time had been in use not to exceed fifteen years. There were two "exceptions" in the buildings of Chicago, one, the St. James' Church, by the late Frank Wills, of Montreal, part of which is still in existence, and the other a large brick dwelling, on Michigan Avenue, the Eames residence, by Richard Upjohn, which was entirely destroyed by fire. The Marshall Field residence, by Richard M. Hunt, then in process of erection, was not reached by the fire, and is still in the family. Architecture had more generally been recognized as a profession in Chicago than in other American cities. Every house of any pretension had been designed by some architect. The work of the first two years was mostly reconstruction in the business district, and was very extensive. The financial revulsion of 1873 put a stop to building operations, and there was stagnation in building for at least six years.

It was in this period that the firm of Burnham and Root was established, and like other beginners they had their struggles. They had both been in the office of the writer of this article—Mr. Burnham, as student, and Mr. Root, as



RESIDENCE OF D. H. BURN-
HAM, EVANSTON, ILL.



TERRACE AT MR. BURNHAM'S HOME IN EVANSTON, ILL.

Overlooking Lake Michigan, and raised above the driveway donated by him to carry out the plan of a lakeside parkway.

head draftsman. Whatever influence I may have had on their work was through Mr. Root. Before I made his acquaintance in New York he was a follower of the then much misunderstood "Gothic Revival," as it was called. He had worked for James Renwick, who had done some of the earliest work in this country that deserved to be called "Gothic." But Renwick was a copyist, and much inferior to Upjohn, whose Gothic work was all good. Root was one of the few men who understood the spirit of the so-called "revival;" that is, that it was not an attempt to copy old buildings, but to apply the constructive principles of the best Gothic work of the twelfth and thirteenth centuries to the materials, facilities and necessities of our own time, using only the details as models and conforming them to our best use. It sought also to introduce original carved ornament, when required. Mr. Burnham appreciated and admired this faculty in Mr. Root, and that is why he asked him to join him in a new partnership. It was through his influ-

ence that the business was at first furnished, and the first building they designed and carried to successful completion was a large stone dwelling at the northwest corner of Twentieth Street and Prairie Avenue for the late John Sherman, which is still standing. Their work after this comprised many residences, some in a similar style, and others more freely treated, until their work gradually assumed that freedom which made it stand out with distinction among the great number of houses that the growth of the city and the increased financial conditions made possible. It was the writer's fortune to design one of the largest residences in this manner in the north section, which also attracted attention. But the swarm of architects which the rebuilding of Chicago had attracted, many of them from foreign countries with little or no training, tried to copy our designs, and in most cases made caricatures of them, and the mass of people could see no difference. But a few of the older men, among them the late Dankman Adler, adopted these basic

principles in most of their work; and later he formed a partnership with Louis H. Sullivan, who has had more credit than any other man of having been the founder of the progressive school of architecture of the Middle West.

It was through Burnham's great energy and ability to educate his own clients that so much of this work came to his firm, work which included such notably important and interesting buildings as the Chicago Club, first erected for the Art Institute, and sold to the Club, the First Regiment Armory, the Masonic Temple, the Monadnock Building, the Rookery, and, greatest of all, the Woman's Temple. With these buildings and the Auditorium, the Schiller Building, the Schlessinger and Mayer store and the K. and M. Temple of Adler and Sullivan, and the Marshall Field Wholesale Store and McVeagh residence of H. H. Richardson, it may be truly said that architecture had a new birth in Chicago. But it was not the birth of a style. It was rather the birth of independence, of a freedom from the trammels of precedent and the dictum of any school.

The first mentioned group is illustrative of the many which Burnham and Root designed during the first period of the well-earned prosperity of the firm from 1880 to 1893, the most remarkable building period ever known in Chicago. Their influence upon the other architects of that city was very marked, especially in the design of private residences, before the erection of apartment buildings became the vogue.

It was at the beginning of this period that they designed the first high office building, the Montauk Block, only ten stories high, but high enough to be called then a skyscraper. It was of a severe but rational style, in pressed brick, with very little ornamentation. It has been removed to make room for the First National Bank Building, erected from plans of D. H. Burnham & Co., and finished in 1903. Near the end of the period just described, in 1890, the Masonic Temple was completed, which long held the record of being the tallest building in the world. Between these dates they designed about a dozen buildings designated as skyscrapers. But the reader



COVERED PORTION OF PATHWAY FROM MR. BURNHAM'S HOUSE THROUGH WOODS AND GARDENS TO THE TERRACE.

must refer to the lists published elsewhere for detailed information and the illustrations which accompany these articles. About the time of the erection of the Rookery, the all-steel skeleton began to be developed by other architects, though the interior court wall of this building was of skeleton construction, also the south wall of the Phoenix Insurance Building, also by Burnham and Root, now owned by the Western Union Telegraph Company, which was of skeleton construction behind the elevators. The last sixteen-story building designed by Burnham and Root, with solid walls all the way up, was the north half of the Monadnock, which was entirely faced with brick and absolutely without ornament. The massive dignity of this building has not been surpassed. It is also the last skyscraper built in Chicago on spread foundation of steel and concrete, just as the Montauk Block was the first. Thus, building history has been made and an epoch recorded by Mr. Burnham and his coadjutors during his lifetime. The Masonic Temple is among the first buildings attributed to him of all-steel construction.

The above-mentioned buildings are only a few of those designed by the firm of Burnham and Root previous to Mr. Root's death. The limits of this article will not permit detailed mention of the many beautiful private dwellings designed by the firm. They were leaders in the influence that they exerted upon the works of other architects in Chicago and elsewhere. The later buildings were not Gothic, nor were they in any sense Renaissance. But they showed the results of study of not only the Romanesque, but going three centuries later, the early revival of architecture in the time of Francis I. But there was no mixture of styles in any of them. Each was consistent with the age which influenced it and with itself.

Mr. Burnham's connection with the Exposition is now a matter of history, so well known as not to require repetition here. The unfinished private work of Burnham and Root had been cared for by Mr. Perkins during the Exposition, and at its close Mr. Burnham found

himself back again in his office surrounded by the splendid library that he had collected, but at a time when the whole country was afflicted with the consequences of a financial revulsion no less potent than that of 1873.

I have already told how he reorganized his office. But he did not have to wait long for clients. His work in connection with the Exposition had brought to him a multitude of new friends, and he was now known all over the United States and even throughout the world as a man who could accomplish anything he set out to do. He was of splendid physique and of imposing presence. He had taken good care of himself and enjoyed life. His office practice came back slowly at first on account of the financial condition of the country, but afterwards with redoubled increase, and his practice, which before had been largely local, had now become national. But his office was always in Chicago, the city of his birth, which he loved, and for which his greatest desire was to make it greater and more beautiful, so that all the world might come to admire it. This is no exaggeration. The principal theme of all the addresses he delivered in behalf of his plans for its improvement and beautification was that beauty was an asset that the city should cultivate for its own interest. Thereby he attracted to his own suggested improvement works the commercial interests which had before sought only their own benefits from the extension of utilitarian measures. And he convinced them. He commenced then his series of sketches to show the people the opportunities that they should seize upon for the greater beautification and aggrandizement of his native city; the first of which, the lagoon and park in Lake Michigan from Twelfth Street south to Jackson Park, has just been authorized and is about to be accomplished.

Then clients began to come from all quarters of the country, and the second period in his career commenced. The splendid organization of the work done by him at the Exposition attracted practical business men and men of capital. It appeared that his future work would



RESIDENCE OF HENRY C. CORBIN, ESQ., WASHINGTON,
D. C., 1907. D. H. BURNHAM & CO., ARCHITECTS.

likely be mostly in the line of business and commercial buildings, and great public buildings for big corporations. Then came the great schemes for civic development and land improvement in which he achieved a world reputation.

But it is his architecture that concerns us here. It is not difficult to see how his World's Fair experience had an influence upon his ideas of the mission of architecture. His dream of the possibility of beauty in architecture had been practically realized to near perfection in the work of other architects, whose ability he respected and admired. Among these was that *facile princeps* of an architect, Charles Follen McKim. He was given the Agricultural Building to design, and at the same time was employed as architect for the New York Building. The first was McKim's dream of a great palace by a lake or river. It did not matter to him whether it was for agriculture or anything else. He designated its use only in the sculpture which adorned it, for which he selected the best sculptors in America, and on its domes copied the work of one of the greatest sculptors in France—Jean-Baptiste Carpeaux. The New York Building was a reproduction of a small palace of the Italian Renaissance, the Villa Medici. It was another man's dream of three centuries ago. McKim spent a great deal of time in Chicago during the formative days of the Exposition, and he and Burnham were in almost daily intercourse. They became fast friends. It is therefore not wonderful that he should have greatly influenced Burnham's future career. For who could avoid it under such circumstance? McKim was a man of great knowledge and fine discrimination. He had a greater capacity than any other man I know of in finding out what was best in the Italian Renaissance and using it to the best advantage. Mr. Burnham could have no better exemplar if he were to choose any one on personal grounds. We can see it in most of his later work, in which his personal influence in the design of his buildings is more marked than it was when he had for associates Root and Atwood. Furthermore, his success was due largely to his capacity to pro-

duce a scheme in planning that would prove to be a good paying investment. And he did this without impairing the rationalism of his construction, bringing all his great piers down to the ground, and not cutting them off to get more plate glass into his buildings. He satisfied his clients without doing this. If he did not develop a characteristic American architecture, except in his skyscraping buildings, he made them imposing to look at and paying investments for their owners.

Mr. Burnham showed his generosity to his profession by a provision in his will of a legacy to the Art Institute of Chicago of \$50,000 for the establishment of an architectural library. The trustees of the Institute decided that it should be called the Burnham Architectural Library, and put it in charge of a special committee of architects, of whom his sons are members. There had always been a very extensive alcove for architecture in the Ryerson Library, which is part of the Institute. These books were purchased from the Institute with part of the Burnham fund and became the nucleus of the Burnham Library. Many other purchases have since been made, and will continue to be made, and the books, photographs and other illustrative matter will remain in the Ryerson Library until other provision is made for their care.

In the new organization, under Mr. Graham as the head, the work has continued as before, in three divisions: first, planning and design, to be conducted by Mr. Anderson; second, working plans and specifications, including all branches of engineering, under Mr. Probst; and third, contracts and supervision, under Mr. White. Hubert Burnham is at present Mr. Anderson's assistant, and D. H. Burnham, Jr., has been associated with Mr. White's department.

A word further about Mr. Ernest R. Graham, head of the present firm of Graham, Burnham & Co., may not be amiss. After 1900 the practice of D. H. Burnham & Co. had assumed enormous proportions. Mr. Graham was then his sole partner, and a great responsibility rested upon him which he fulfilled with



RESIDENCE OF STANLEY FIELD, ESQ., LAKE BLUFF,
ILL., 1914. D. H. BURNHAM & CO., ARCHITECTS.



ADMINISTRATION BUILDING AND FORMAL GARDENS, WASHINGTON PARK, CHICAGO, 1910, 1912.
D. H. Burnham & Co., Architects.

the greatest exactitude and the full confidence of Mr. Burnham. The work was Graham's as much as Burnham's, and he was thus in a position to step directly into Mr. Burnham's place whenever Mr. Burnham might retire or be removed by death. And the sequel proved to be true. The organization which Mr. Burnham had effected, as above described, proved to be adequate to the purpose and after his death everything went on as before. The associates who had been with Mr. Burnham were still with Mr. Graham, and it was entirely fitting that they should continue as such, showing not only Mr. Burnham's great foresight, but Mr. Graham's capacity to continue as the leader. This has now been continued for nearly three years past, the first two being the busiest years in the history of the firm. The work has comprised the execution of the Continental and Commercial National Bank Building at Chi-

cago, the largest office building in that city, which had been designed during Mr. Burnham's lifetime, and the designing and completion of nine other buildings of the "skyscraper" class built in seven different cities; also two railway stations, one warehouse and one manufacturing plant. The great Union Passenger Station of the Pennsylvania Company and the Field Museum of Natural History, both at Chicago, have been designed and work on them has been commenced. For nine months past the unfortunate war in Europe has tended to put a check upon many other schemes all over the country; but during the past year or more the work of the firm has culminated in the erection and recent completion of the Equitable, the largest and most important office building thus far built in the City of New York, designed and supervised throughout by Mr. Ernest R. Graham.



ADMINISTRATION BUILDING AND FORMAL GARDENS, WASHINGTON PARK, CHICAGO, 1910, 1912.
D. H. Burnham & Co., Architects.



BURNHAM AS A PIONEER IN CITY PLANNING

BY WILLIAM E. PARSONS

THE movement to make the modern city convenient for commerce and attractive and healthful as a place of residence is a step forward to which Daniel Hudson Burnham has contributed more than any other man of our time.

The concentration of enormous masses of population in cities is bringing about one of the greatest of modern problems. The study of the problem is as complex as the city itself, for a city plan to be fully effective must be comprehensive, involving all the closely related and interdependent elements which go to make up the city's life. Sometimes it is a question of street arrangement; often

the relocation of railway lines and terminals, the bringing of parkways into the center of the city, or the restoration to public enjoyment of a lake or river front or other features of natural beauty; sometimes a matter of dollars and cents per ton in handling freight. In many of our larger cities we have seen a general exodus to the suburbs, even to the country, leaving long established residence sections deserted. But, although modern transportation has brought the country near to the city, the time and expense of the twice-a-day trips can be spared by a comparatively small part of the community. The efforts for smoke abatement, pure air, better housing con-

ditions all belong to this definite step in the development of man; a forward step for humanity, for the percentage of our population living in cities is already large and is constantly increasing.

To the matter-of-fact person the creation of plans for the distant future of a city has seemed visionary. It is fortunate, therefore, for the development of city planning in America that its chief pioneer was a man of influence among practical men of business. It needed a man of Mr. Burnham's reputation as a man of sound business judgment and experience in large undertakings. It needed all of his convincing personality, forceful presentation of his ideals and skill of organization to bring these projects to a successful inauguration.

It should be realized that his city planning work was performed as a public service, outside of his architectural practice and of his office organization. This meant not only a great increase in the heavy responsibilities he was already carrying, but also a financial sacrifice to his firm. He accepted no compensation for this work and generously shared with his associates and assistants the credit for its success.

A review of Mr. Burnham's work in city planning will reveal the wide range of his services and the breadth as well as the distance of his vision. The World's Fair of 1893 in Chicago was the starting point. It was an object lesson in accomplished idealism; it demonstrated to the American people the effectiveness of the grouping of buildings in orderly relation to each other. This led as the next step to the creation by the Government of the first Plan Commission in the country to make a comprehensive plan for the development of Washington. The work of this commission, of which Mr. Burnham was chairman, is too well known to need description here, but it should be recalled that the great obstacle which confronted the commission in the restoration of L'Enfant's plan was the occupation of the Mall by the Baltimore and Potomac. This railroad had many years previously received from Congress permission to oc-

cupy the Mall and was about to erect a new station on this site. It was through the determined efforts of Mr. Burnham and his vigorous appeal to the public spirit of the railway authorities that an agreement was finally reached by which the railroad company abandoned its rights to the Mall and combined with other railroads in the construction of the magnificent Union Station forming the gateway to the Capital. For this achievement he is entitled to the nation's enduring gratitude.

In Cleveland, as in Washington, the work was intrusted to a commission of experts of which, it may be assumed, Mr. Burnham was the dominating member. The project developed in Cleveland was not a comprehensive city plan but was limited to the grouping of important public buildings in an orderly and imposing composition around a great esplanade. Three of the buildings have already been executed in accordance with the plan.

In 1905 he made the plan of Manila, in which Mr. Taft, as Secretary of War, had taken the initiative. Here the immediate problem was the formation of a general plan of location for government buildings near the center of the city, but this soon grew into a comprehensive plan for the streets and parks of the entire city, allowing for its future growth.

Simultaneously with Manila the preliminary plan of Baguio, the summer capital, was developed.

At about the same time with Manila came the plan of San Francisco, supported by an association of private citizens who undertook its "improvement and adornment." Here again the plan was carried further than mere adornment, for it included a revision and addition to the street system in the city itself, developed a magnificent park scheme south of the city and also outlined the business, warehouse, industrial and residence districts.

It was fitting that the last, his *magnum opus*, should have been the plan of Chicago, where the World's Fair twenty-five years previously had inspired his first efforts.

Consider the variety and range of sub-



SHERMAN PARK BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



SHERMAN PARK BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



FULLER PARK BUILDING, CHICAGO, 1910.
D. H. Burnham & Co., Architects.



FULLER PARK BUILDING, CHICAGO, 1910.
D. H. Burnham & Co., Architects.

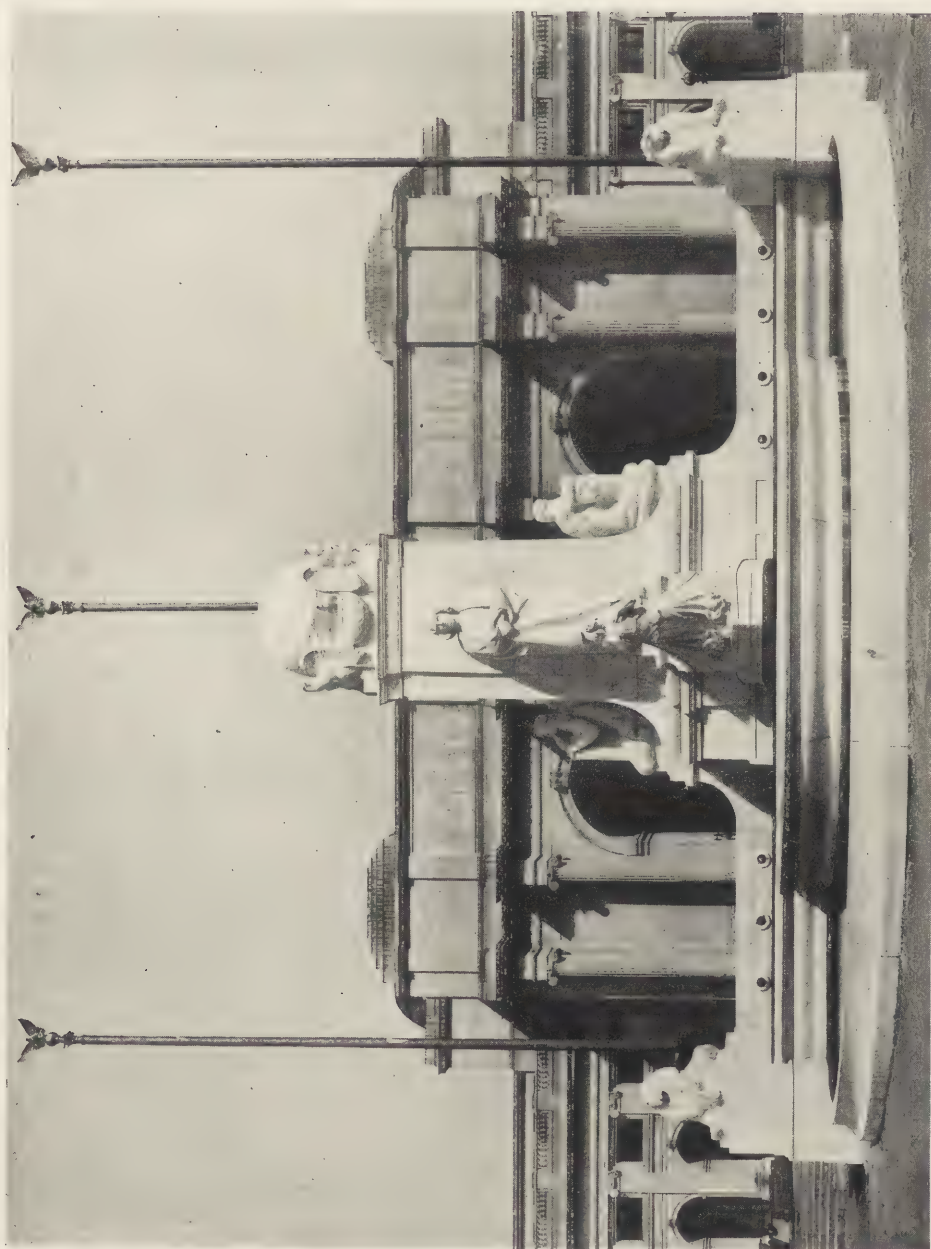
jects—the World's Fair, an expression of idealism; Washington, the restoration and development of a century old plan; Manila, an old Spanish city in the tropics; Baguio, a mountain plateau overlooking the China Sea; San Francisco, the modern city of splendid location and peculiar topography; and Chicago, confronted on account of its rapid growth with most serious problems.

In the composition of his city plans, as in his executed buildings, the classic traditions had a strong hold on him. Long, straight lines and repetitions of rectangular units prevail throughout his plans. It is true that in San Francisco and Chicago, where rigid rectangular street systems are the rule, there was left no alternative but to fall in line with the existing forms, with the addition of the necessary diagonal lines, recalling L'Enfant's plan of Washington. In San Francisco the curved streets along the sides of the hills are introduced to correct the defects of the original plan on which the city was laid out. In the plan of Manila the future extension of the city appears in rectangular system with diagonal arteries, intersecting in round points and other formal arrangements. In Baguio, too, where the topography is extremely irregular, straight axes were created and rectangular forms prevailed wherever the natural contours allowed. In no case is there any evidence of desire to revert to medieval forms with a conscious effort for the picturesque, as is found in town plans of modern Germany.

The architectural quality of European cities developed during and subsequent to the Renaissance awakened in him a profound admiration and remained a constant guide. "In Paris," he writes to a younger friend about to start on European travel, "note the use of accents on the centers of vistas, especially the columns, the arches and corner buildings. Note the ease and perfection of the circulatory street system. It would be a good thing to keep a Paris map on your table, get your points of compass firmly fixed in your head as you study it, and never come in or go out without glancing at the map to direct or cor-

rect you. Remember, the city as a whole, as one grand design, is the major study and try to get the key and see how everything works out and is related. The great gardens of Paris are a part of the related system. Most people look at things only in detail. You should try to see the reasons, for the entire system has been studied and worked out as a whole. In detail study the river quays, bridges and boulevards, noting proportions and scale very carefully. I find it important to look down upon Paris. You get a very fine far-off view from St. Germain, another of vast importance from St. Cloud and the greatest from the Eiffel Tower. Spend a lot of time up there, map in hand; every minute of it will pay. After thus studying Paris you will not be able at first to recall it except as a confused mass. But later on when problems great and small come up in your own work, details will suddenly jump up in memory and be of great help to you. The reasons, the reasons, the reasons; education lies in seeing them. They are the conclusions that the brightest minds have come to, after the experience of 2,500 years from the Tower of Babel down to our own time."

Of the execution of the plans for Manila and Baguio, it is my privilege to record the progress from personal knowledge, for as Consulting Architect for the Philippine Government for the eight years following the inception of the plans in 1905, I was charged with their interpretation and development. Under the administration of Commissioner W. Cameron Forbes, afterwards Governor-General, who gave the plans his constant support and personal attention, these were years of rapid achievement. As the time spent by Mr. Burnham in Manila was quite limited, the plan had been drawn from general impressions, rather than from accurate and detailed surveys. He intended that the plan should be considered as a group of suggestions and that it would have to be adjusted to meet the developed real estate and other controlling conditions. However, it is remarkable how closely the executed work follows the plan. Except



COLUMBUS MEMORIAL, WITH UNION STATION IN BACKGROUND, WASHINGTON, D. C., 1911. D. H. BURNHAM & CO., ARCHITECTS. LORADO TAFT, SCULPTOR.



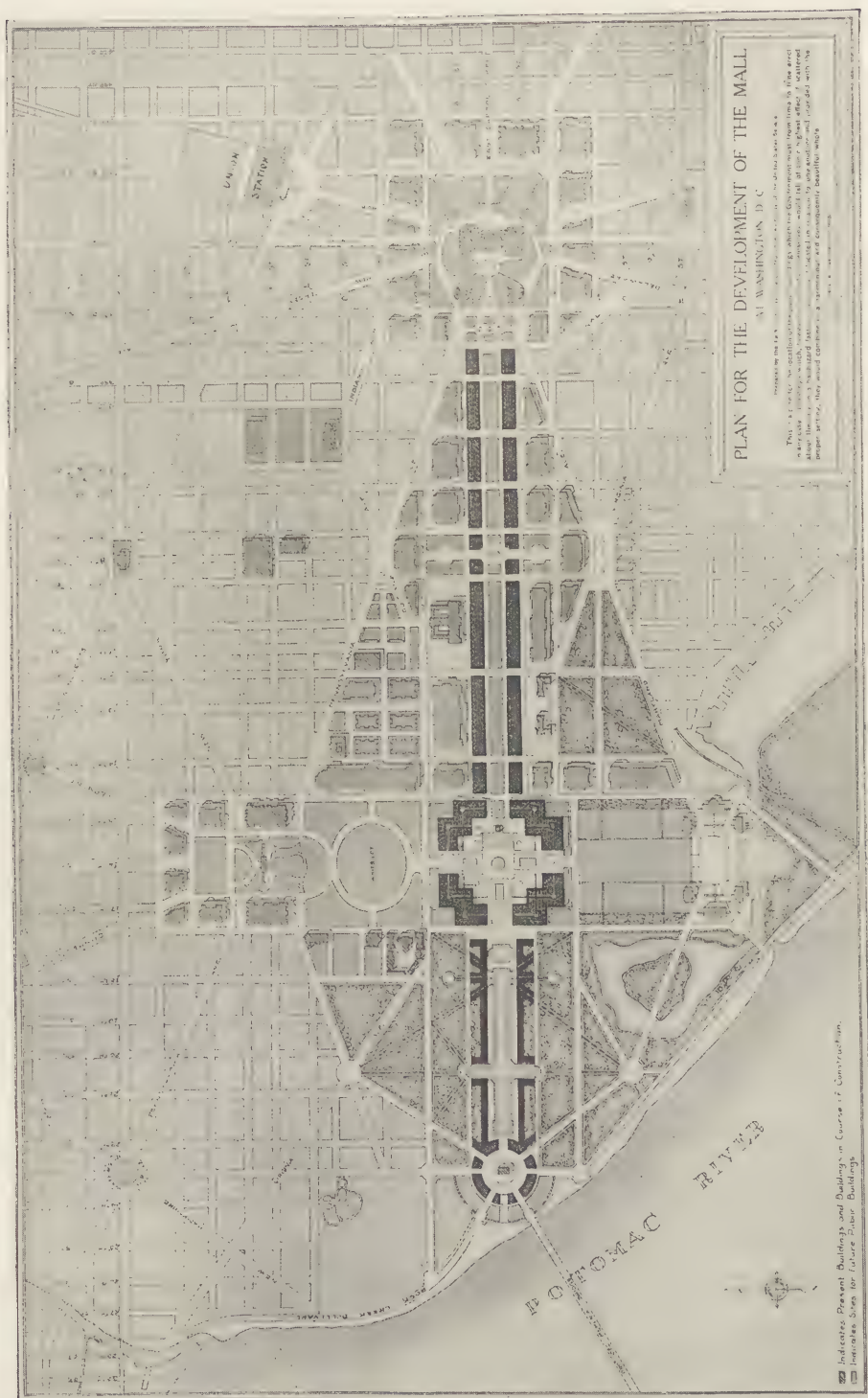
UNION STATION, 1904, 1906, AND NEW POST OFFICE,
1914, WASHINGTON, D. C. D. H. BURNHAM & CO.
AND GRAHAM, BURNHAM & CO., ARCHITECTS.

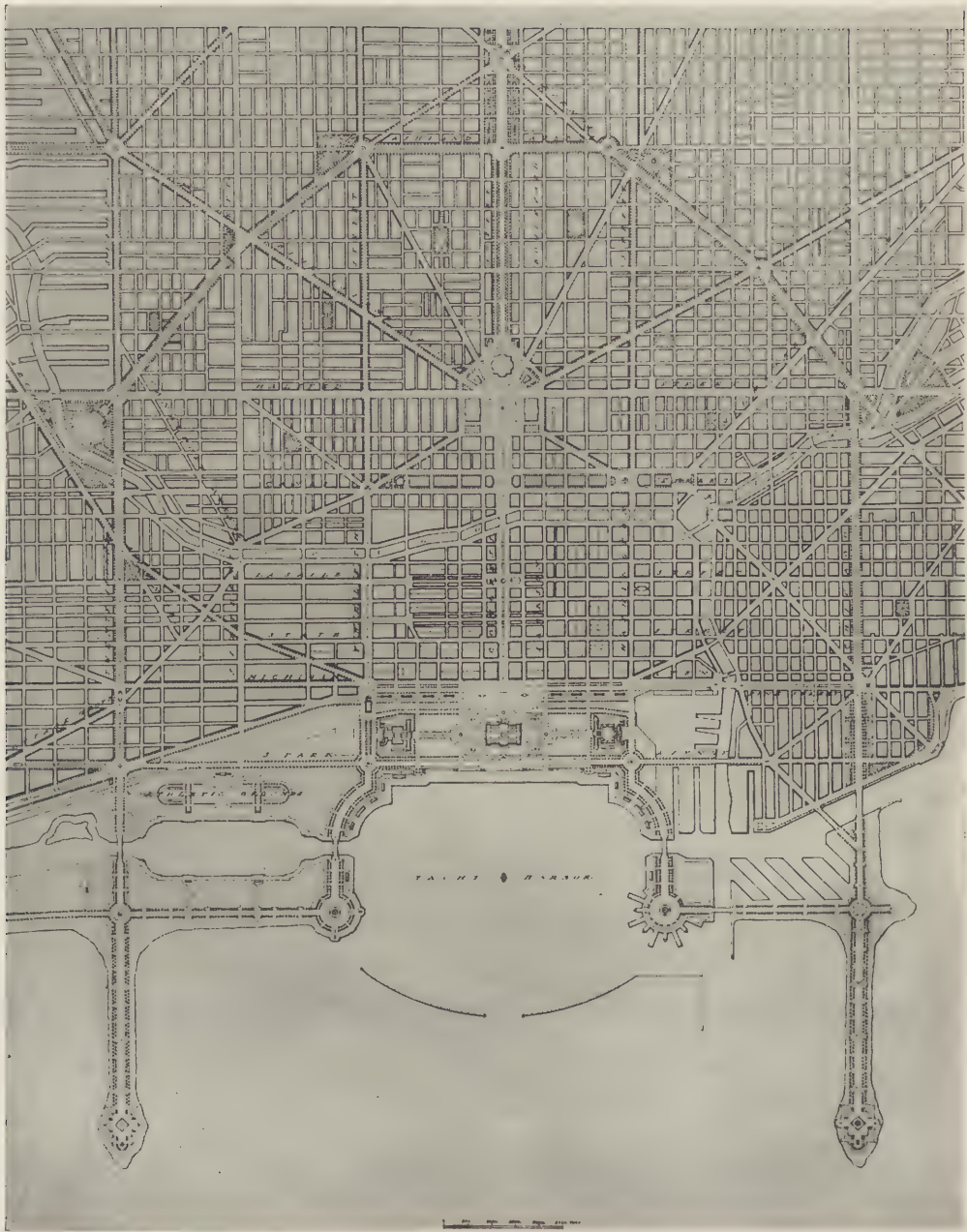


U. S. POST OFFICE, WASHINGTON, D. C.,
1914. D. H. BURNHAM & CO. AND GRA-
HAM, BURNHAM & CO., ARCHITECTS.



U. S. POST OFFICE, WASHINGTON, D. C.,
1914. D. H. BURNHAM & CO. AND GRA-
HAM, BURNHAM & CO., ARCHITECTS.





By courtesy of the Commercial Club.

CHICAGO—PLAN FOR COMPLETE SYSTEM OF STREET CIRCULATION, RAILWAY STATIONS, PARKS, BOULEVARD CIRCUITS AND RADIAL ARTERIES, PUBLIC RECREATION PIERS, YACHT HARBOR AND PLEASURE BOAT PIERS, TREATMENT OF GRANT PARK, THE MAIN AXIS AND THE CIVIC CENTER. D. H. BURNHAM AND E. H. BENNETT, ARCHITECTS.

for the location of the entrance of the railway lines from the south, with a corresponding modification of the terminal and the street system of this section, the suggestions are being realized either in

buildings, have been reclaimed from the waters of Manila Bay. There has also been reclaimed more than a mile of the Cavite Boulevard, which, starting from the Luneta and following the gently



By courtesy of the Commercial Club.

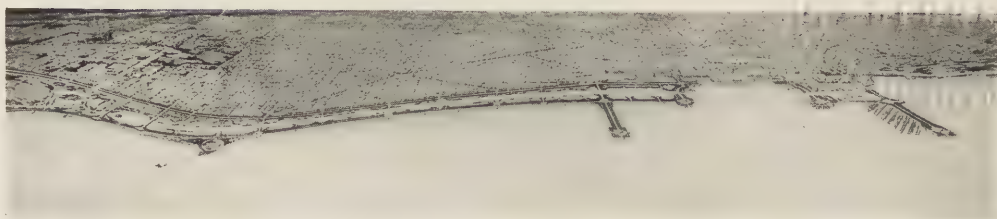
CHICAGO—PLAN FOR A COMPLETE SYSTEM OF STREET CIRCULATION AND OF PARKS AND PLAYGROUNDS.

D. H. Burnham and E. H. Bennett, Architects.

the acquisition of street areas or in actual construction. In fact, much of the arterial frame work has been constructed and nailed down, as it were, with permanent public and semi-public buildings. The large areas of the moats surrounding the old Spanish Intramuros which today forms the heart of the modern city have been converted into public parks and playgrounds. Extensive park areas and playgrounds in the suburbs have been acquired, and the Luneta extension, including a park named in honor of Mr. Burnham, and forming magnificent sites for the new hotel and club

curving shore-line of Manila Bay, will be extended eventually to Cavite.

Soon after the inception of the civil government in the Philippines, the administration began to consider the founding of a town in the higher altitudes where a more temperate climate is offered than exists in the lowlands of the tropics. Analogous to Simla, the summer capital of India and other mountain resorts, such a place would serve not only as a seat of government during the intense heat of early summer, but as a health resort and place of recuperation for both Americans and Filipinos.



By courtesy of the Commercial Club.

CHICAGO—VIEW OF THE CITY FROM JACKSON PARK TO GRANT PARK, LOOKING WEST.

The proposed shore treatment as a park enclosing a waterway (or series of lagoons) is shown, together with the enlarged yacht harbor, recreation piers and a scheme for Grant Park.

D. H. Burnham and E. H. Bennett, Architects.

The town site selected was Baguio, in the mountains of northern Luzon, about 160 miles from Manila.

In Baguio the problem appears in sharp contrast to the other city plans undertaken by Mr. Burnham. Instead of an old city to be replanned, a new one was to be created. If we exclude some of the modern industrial towns, Baguio shares with Dalny the distinction of being planned and built within an interval of eight years. The site of Baguio lies at an elevation of 5,000 feet above the

China Sea, which is eighteen miles distant and visible in clear weather.

The topography of the site is extremely rugged, a series of hills and ravines, with wide valleys and deep cañons on the south, east and west. The peculiar topography is faithfully expressed in his preliminary plan. Composition obedient to nature is the controlling principle. The site of the government center, wisely selected by Mr. Taft while he was civil governor, marks one end of the main axis.



From a Painting by Jules Guerin for the Commercial Club.

CHICAGO—BIRD'S-EYE VIEW OF GRANT PARK, THE FACADE OF THE CITY, THE PROPOSED HARBOR AND THE LAGOONS OF THE PROPOSED PARK ON THE SOUTH SHORE.

D. H. Burnham and E. H. Bennett, Architects.

From here it passes first through a deep ravine and then through a wide level basin terminating at the other end at an elevation which was chosen as the site of the municipal center. Minor axes are developed along ridges, valleys and

hilltops. Nature offered a few formal lines, but for the most part the roads were determined by the contours and the engineer's level. In the executed plan the elements of the preliminary plan have been followed, with the exception that



By courtesy of the Commercial Club.

CHICAGO—PROPOSED IMPROVEMENT OF MICHIGAN AVENUE TO CONNECT THE NORTH AND SOUTH SIDES OF THE RIVER; VIEW LOOKING NORTH FROM WASHINGTON STREET. THE BOULEVARD IS TO BE RAISED TO ALLOW FREE FLOW OF TRAFFIC UNDER IT.

D. H. Burnham and E. H. Bennett, Architects.



From a Painting by Jules Guérin for the Commercial Club.

CHICAGO—VIEW LOOKING SOUTH OVER THE LAGOONS OF THE PROPOSED PARK FOR THE SOUTH SHORE.

D. H. Burnham and E. H. Bennett, Architects.

the lower levels of the basin have been made into a park, the business section being limited to the gentle slopes adjoining the municipal center. At the present stage of execution Baguio occupies a much larger area than is covered by the Burnham plan, since in addition to Camp John Hay, a military reservation serving as a recuperation station, a large number of semi-public institutions such as schools, religious orders and sanitariums, have been established on the hill-sides surrounding the city.

If I have lingered on the entrancing subject of Baguio it is because due appreciation should be given to the sane imagination which produced the original plan.

Briefly stated, the elements of the plan of Chicago, in the preparation of

which Mr. Burnham associated with him Edward H. Bennett, are the perfection of the existing street system, the simplification of the railway entrances and terminals and the provision for parks, playgrounds and forest preserves. There are many conditions which depend on these: the simplification of the railroad terminals which would bring with it the expansion of the business center and relieve the congestion of its streets; the simplification of railroad lines which would result in a more definite grouping of industrial zones in such a way that the districting of industry and residence would result automatically. By the co-operation of the railroads the plan proposes to reduce the cost of handling freight and to eliminate from the streets all unnecessary teaming. The Chicago

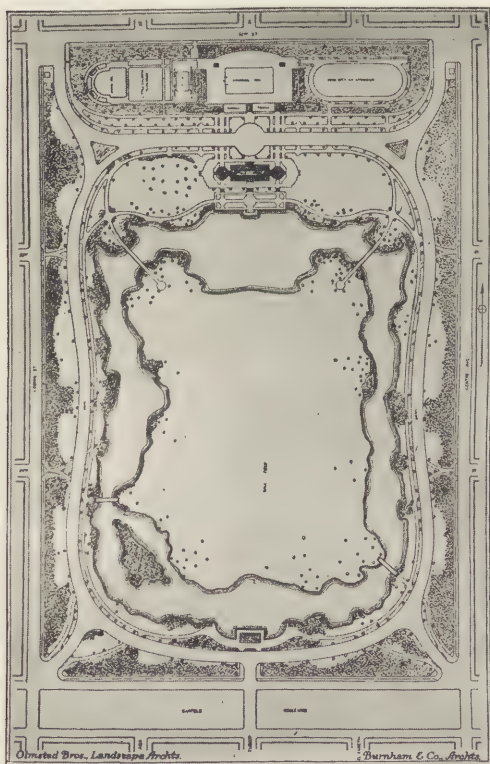
Terminal Commission, formed last year, has prepared preliminary recommendations which are in line with the Plan of Chicago. The criticism commonly heard as to the existing streets of Chicago is their extreme uniformity and monotony. In the text of the Chicago Plan there is a clear and forceful statement regarding this which may be quoted as an illustration of Mr. Burnham's sound and convincing logic:

"Chicago has two dominant natural features; the expanse of Lake Michigan, which stretches, unbroken by islands or peninsulas, to the horizon; and a corresponding area of land extending north, west and south without hills or any marked elevation. These two features, each immeasurable by the senses, give the scale. Whatever man undertakes here should be either actually or seemingly without limit. Great thoroughfares may

lead from the water back into the country interminably; broad boulevards may skirt the Lake front, or sweep through the city; but their beginnings on the north, on the south, or on the west must of necessity be points that move along determined lines with the growth of population. Other harbors have channels winding among islands or around jutting promontories until the land-locked basin is reached; but Chicago must throw out into the open water her long arms of piled-up rock in order to gather in safety the storm-tossed vessels. Other cities may climb hills and build around them, crowning the elevations with some dominating structure; but the people of Chicago must ever recognize the fact that their city is without bounds or limits. Elsewhere, indeed, man and his works may be taken as the measure; but here the city appears as that portion of illimitable space now occupied by a population capable of indefinite expansion. Whatever may be the forms which the treatment of the city shall take, therefore, the effects must of necessity be obtained by repetition of the unit. If the characteristics set forth suggest monotony, nevertheless such are the limitations which nature has imposed; and unless the problem is faced squarely no treatment proposed will seem adequate or will prove lastingly satisfactory. On the other hand, the opportunity now exists to create out of these very conditions a city which shall grow into both convenience and order, and shall possess all the means of making its citizens prosperous and contented."

The excellence of the plan lies in its frank acceptance of the conditions imposed and in the perfecting rather than in drastic changing of the existing streets. One of these is the North and South Boulevard link, being a widening and elevation of a section of Michigan Avenue allowing the enormous traffic of the intersecting streets to pass beneath. This project, which will cost eight million dollars, has been approved by the vote of the people and final steps are being taken toward execution.

The restoration of the south shore of



CHICAGO—PLAN OF SHERMAN PLAYGROUND AND PARK, THE GROUPED ASSEMBLY HALL, GYMNASIA AND OPEN-AIR SWIMMING POOL FORMING THE CENTER OF THE COMPOSITION.



SAN FRANCISCO—SYSTEM OF HIGHWAYS, PUBLIC PLACES, PARKS, PARK CONNECTIONS, ETC., TO SERVE AS GUIDE FOR FUTURE DEVELOPMENT, RECOMMENDED TO THE ASSOCIATION FOR THE IMPROVEMENT AND ADORNMENT OF SAN FRANCISCO BY D. H. BURNHAM IN 1905.

Lake Michigan to the health and enjoyment of the public is one of the salient features of the plan. This was proposed by Mr. Burnham in 1896, long before the city plan was conceived. The restoring of the shore is to be accomplished not by acquiring the existing water frontage but by reclaiming a strip averaging a quarter of a mile in width from Grant Park to Jackson Park, a distance of about five miles. A lagoon of this length and four hundred feet wide will lie along the center of the park affording ideal conditions for still-water sports. The fact that the material from excavations, which would otherwise be taken out and dumped in deep water, is available without cost and would be sufficient to fill at the rate of thirty acres a year contributes to the

feasibility of this project. In even a cursory review of his city planning, it is clear that Mr. Burnham's idealism has not led to unrealizable plans. The quality of beauty lies in orderly and logical arrangement; it lies in the very structure of the plan rather than superficial treatment. While convenience must not be sacrificed to beauty, neither will beauty be sacrificed to convenience. Good order and its consequent beauty are the qualities of a good plan. "Let your watchword be order and your beacon beauty."

But the greatest heritage left by Mr. Burnham is his scheme of organization for the creation and execution of the city plan. We all know that it is comparatively easy to plan an improved street system but that the difficult thing



PLAN FOR A SUMMER CAPITAL OF THE PHILIPPINE ISLANDS AT BAGUIO, SUBMITTED TO THE PHILIPPINE COMMISSION BY D. H. BURNHAM AND PEIRCE ANDERSON IN 1905.

is to carry it through to execution. Many good and worthy suggestions have been made to improve the street system of New York City, for instance. They have all failed to materialize because they have lacked the supporting force

and the organization to put them through.

In the Plan of Chicago the organization which has proved successful included fifteen prominent and influential men of affairs. These men supported



PLAN FOR THE DEVELOPMENT OF MANILA, SUBMITTED TO THE PHILIPPINE COMMISSION BY D. H. BURNHAM AND PEIRCE ANDERSON IN 1905. THE ESSENTIAL ELEMENTS ARE THE GOVERNMENT CENTER AND PROPOSED ARTERIES RADIATING FROM IT, THE RAILWAY STATION AND THE SHORE ROAD.

the plan at its very inception, serving on committees charged with the study of particular problems, such as transportation, streets, or terminals. To quote from Mr. Burnham's own description: "In three years there were 200 meetings of the General Committee, at which hundreds of public men, engineers, architects, sanitary, railroad, city transportation, and other experts were present. There is not one man of the fifteen who is not the head of some great business and who is not loaded with the heaviest kind of responsibilities of his own; and yet they all make it a point of honor to be in their seats when the chairman calls to order, and not for a week or two or a month or two but most faithfully through years." When the plan was finished it had the strongest men of the community behind it ready to support it. After the plan had been published and presented to the city, a semi-official commission composed of four hundred citizens, appointed by the Mayor and confirmed by the City Council, was charged with its execution. Its chairman was an active member of the Plan Committee which had labored two and one-half years in producing the comprehensive plan, a man of great ability and public spirit who has now given six years more to the work. During this time the plan has been kept constantly before the public through the newspapers and by means of frequent popular lectures, and has been included in the curriculum of the public schools. Such is the interest in the work that motion picture companies have found the Chicago Plan, illustrated in all its features, a drawing attraction in their theaters, not only in Chicago but in other cities. In our form of democratic government where the issue of municipal bonds for civic improvements is decided by the ballot, public interest must form the basis of plan execution. It is no light task to convince the eight hundred thousand voters of a city of two and one-half millions that they will be benefited by a great project, especially when it is subject to factional and sectional opposition. Within five years three major elements of the plan involving many

millions of dollars have been approved by the people's vote and are approaching actual execution.

I have described at length the organization in Chicago, because it was Mr. Burnham's conception of what was necessary to the successful execution of a comprehensive plan in a great city under a democratic form of government.

At the very outset we are met by the usual objection to the comprehensive plan that a project designed for future needs burdens the present generation unjustly. "Why do for posterity, when posterity has done nothing for us?" How can we know what needs the future will bring? What should be the scope of a city plan and how far should it look into the future? To these important questions we have his answers expressed both in his plans and in his own convincing language at the Town Planning Conference held in London in 1910:

"But the question always arises when a given town is under consideration whether it would be wisest to limit suggestions to present available means, or, on the other hand, to work out and diagram whatever a sane imagination suggests. If the first be made your limit, your work would be tame and ineffectual and will not arouse that enthusiasm without which nothing worth while is ever accomplished. . . . Moreover, there is the other way of looking at this question—namely, the one mentioned in the beginning of this paper, and that way has to do with the growth of man's knowledge, of his perceptions, and finally, of his desires. It is the argument with which I began, that a mighty change having come about in fifty years, and our pace of development having immensely accelerated, our sons and grandsons are going to demand and get results that would stagger us. Remember that a noble logical diagram once recorded will never die; long after we are gone it will be a living thing, asserting itself with evergrowing insistency, and, above all, remember that the greatest and noblest that man can do is yet to come, and that this will ever be so, else is evolution a myth."



CALUMET CLUB, CHICAGO, 1881.
BURNHAM & ROOT, ARCHITECTS.



DIRECTORS' ROOM—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.



THE WORK OF BURNHAM & ROOT D. H. BURNHAM—D. H. BURNHAM & CO. and GRAHAM, BURNHAM & CO.

BY A. N. REBORI

THE passing of Daniel Hudson Burnham on June 12, 1912, brought to a sudden end the brilliant career of one of the foremost architects and one of the greatest citizens of America. His achievements, covering a period of forty years of actual practice, have exceeded in number those of any other architect of his time, and the work he had in hand at the time of his death would have kept him busy an additional period of from ten to fifteen years. To him, as to few indeed, was it given the power to conceive great buildings, World's Fairs and many cities, and to plan all commensurate with the marvelous possibilities of the country. Essentially a man of affairs, Mr. Burn-

ham would have been successful in any calling of life, for the qualities which make for success were his to an unusual degree. A commanding figure in any group, his was the power to stimulate and bring forth the best efforts of those with whom he came in personal contact. By his convincing manner he compelled men to carry out his big ideals. He inspired confidence and left the impression of a great personality upon all who came within range of his powerful and positive nature, and upon thousands of those who only knew his name and works.

It can be said with truth that Mr. Burnham lived during a period of opportunities in the making; a period

during which the skyscraper was not only conceived, but in which it was carried to its ultimate structural development. That he played a tremendous part in the growth of this truly American problem is at once apparent. The majority of the commercial buildings designed and planned under his direct control will readily prove that he possessed a marvelous administrative faculty. He was the dictator who organized the work of the various mechanical and technical experts who contributed to the making of tall buildings. He considered it his first duty to permit the structure to serve in the most economical manner possible the combination of functions for which it was intended. In planning he was confronted by a problem the difficulty of which was equalled only by its importance, and if he had not shown himself equal to the task he would have become eventually the subordinate of the building engineers who played such an important part in the evolution of the skyscraper. That he retained his pre-eminence during this period of structural revolution in spite of the increasing importance of the purely engineering and practical problems involved is adequate indication that he performed his task efficiently, and that he received an early training as head of the firm of Burnham and Root which in a sufficient measure prepared him for it. He possessed precisely the kind of ability required to meet these new conditions, and consequently the buildings for which this firm is best known are commercial and office buildings, in which type the administrative faculty, the economic arrangement of plan, plays a part no less important than the power of design.

In order to meet the ever growing demand made upon his services he gathered about him men of ability, versed both in the aesthetic and the practical side of architecture, in the execution of the many works conceived and developed. Mr. Burnham was one of the first architects in America to build up a highly efficient and well equipped office organization to satisfy the needs of a rapidly increasing business.

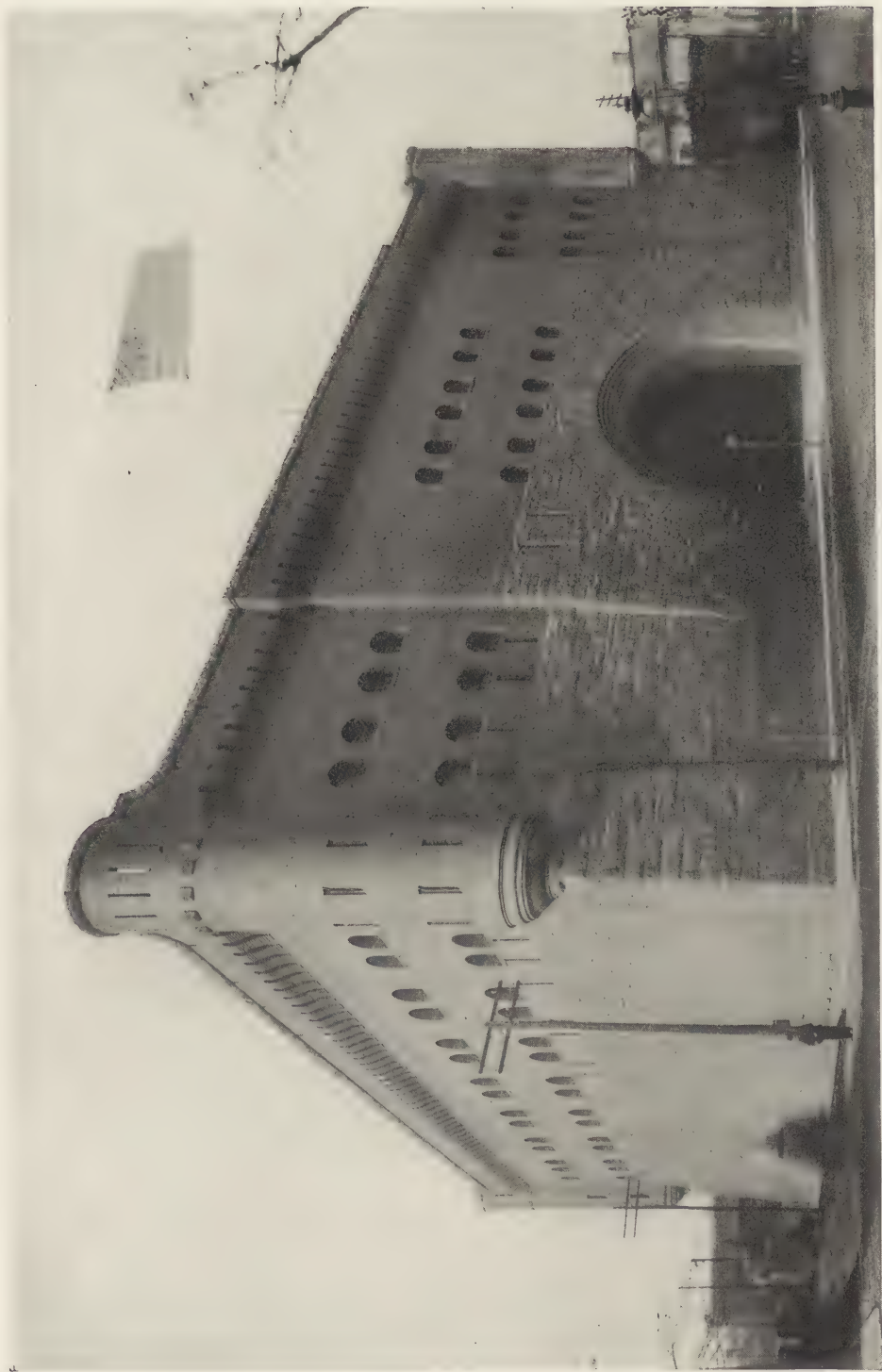
It was during the World's Fair that he proved his great ability as an organizer, and after the Exposition was over his reputation was established throughout the country. From this time on his office grew with leaps and bounds, until in 1912 it reached its maximum in numbers, with not fewer than 180 men on the payroll. Architecture on such a gigantic scale is at times apt to be bewildering, even to a master-mind like Burnham. Occasionally he felt the need of a change from the whirl of big business, and he found this change by devoting a portion of his time in the developing and planning of great cities. If his buildings brought him fame in America, his city plans did even more to add to his greatness, for they have brought him recognition and appreciation from every quarter of the civilized world, and when these same city plans are put into execution they will be monuments to his glory long after the buildings have ceased to exist.

It would take volumes of closely printed matter properly to review the life and deeds of the late Daniel Hudson Burnham, and as this article is to be concerned principally with the buildings executed by him and his associates during the period from 1880 to the present time, we will pass on after this brief appreciation to the more material evidences at hand.

His career was launched in the winter of 1873, some time before the advent of the skyscraper, when the rising steeples of the cities' churches stood out alone conspicuously, towering above the fairly even roof line. His professional apprenticeship began, however, before the Chicago fire in 1871 in the offices successively of W. B. L. Jenney, John Van Osdel, L. Q. Lareau, and finally of Carter, Drake and Wight. It was in 1872 in the office of Mr. Wight that he met John Wellborn Root. A very close friendship was cultivated from the time they first met, and the next year was formed the partnership of Burnham and Root, which lasted until it was dissolved by the death of the junior partner, January 15, 1891. From the beginning to the end of this partnership Mr. Burnham was considered to be the



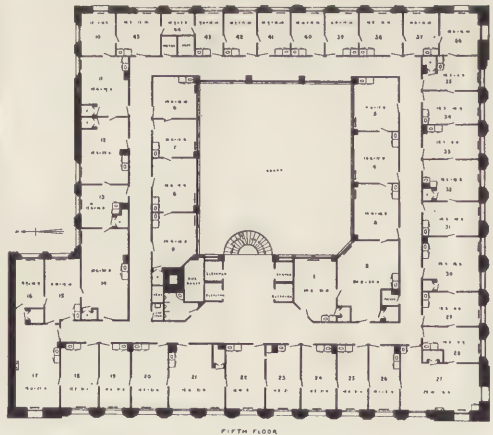
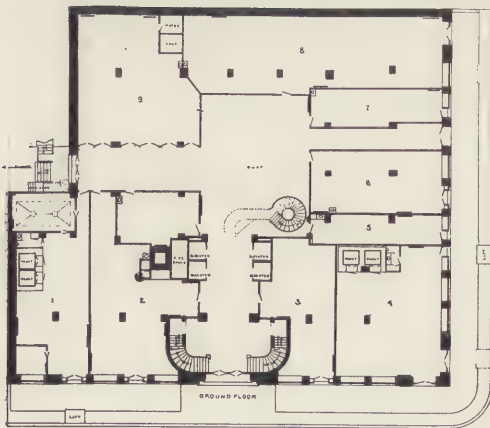
CHICAGO CLUB (OLD ACADEMY
OF FINE ARTS), CHICAGO, 1882.
BURNHAM & ROOT, ARCHITECTS.



FIRST REGIMENT ARMORY, CHICAGO,
1882. BURNHAM & ROOT, ARCHITECTS.



MASONIC TEMPLE, CHICAGO, 1890.
BURNHAM & ROOT, ARCHITECTS.



PERSPECTIVE, WITH PLANS OF GROUND FLOOR AND FIFTH FLOOR—D. O. MILLS BUILDING,
 SAN FRANCISCO, 1890.
 Burnham & Root, Architects.



MONADNOCK BLOCK, CHICAGO—
NORTH HALF OF BUILDING, 1891.
D. H. BURNHAM, ARCHITECT.



WOMAN'S TEMPLE, CHICAGO, 1891.
D. H. BURNHAM, ARCHITECT.

business man of the firm. Mr. Root was commonly esteemed the designer, and the estimate was in a general way correct. The service of Mr. Burnham in this regard was for the most part consultative and critical, but none the less valuable and indispensable. As a matter of fact, in most of their buildings the administrative factor is no less conspicuous than the power of design.

Up to 1881 the work of Burnham and Root included all classes of buildings that called for artistic expression, which began to be appreciated in the West for the first time. This early work gave Mr. Root the opportunity to display his versatility of design and in the early dwellings of this firm it is plain that nothing has been farther from the designer's mind than to attain academical correctness; that the basis of design has been in each case the actual requirements of the building, and to this end they worked with complete freedom. This work is restrained and studied, and that these buildings are not in the least academic does not prevent their being scholarly or their involving the knowledge of the historic architecture that is needed to prevent eclecticism from becoming incoherent. This is the lesson that these early designs inculcate and that makes them an excellent example for comparison with the restrained and more conventional work of the later period of D. H. Burnham & Co., when classic details became the vogue.

It is quite out of the question with the time available and the space here at command to attempt anything like a complete review of the work of an architect or architects whose practices have been so extensive and varied. A few exceptional works or a typical work in each of several kinds it is alone possible to consider.

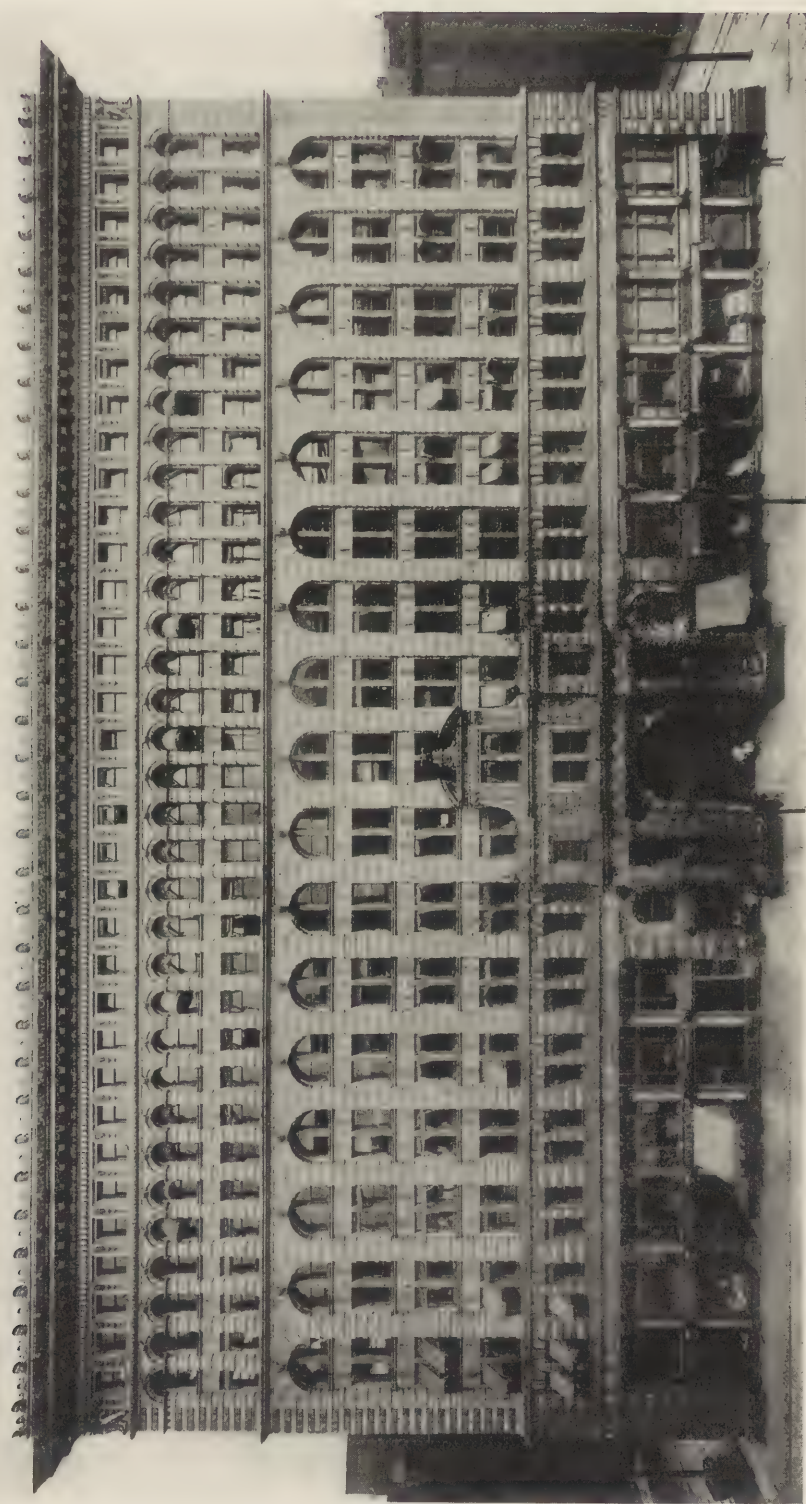
The buildings herewith shown testify to some extent to the succession of architectural fashion. The earliest group of this series, with the single exception of the Calumet Club, are more or less Romanesque in feeling and suggestion. The designer of these buildings was inspired to a certain extent at least by the successes of H. H. Richardson, which

from 1876 onward were instrumental in bringing on a period of Romanesque revival, affecting almost every architect in the United States. As a matter of fact, I do not know of a single example of monumental classic architecture extant in Chicago before the World's Fair of 1892, unless the former City Hall, with its diminutive superimposed orders crowned by the regulation mansard roof of the vintage of 1870, can be so termed. Although influenced, as already intimated, at the start by the work of Richardson, Burnham and Root subjected the effectiveness of that influence to intelligent analysis and maintained a pronounced individuality in their work. A typical example of this is the Chicago Club (the old Art Institute) which it is plain could not have existed in its present form but for this admiring study of Richardson's work on the part of the designers. The fronts of this building are well handled, and the design as a whole is admirable, alike in composition and detail. However, its one weakness was the lack of consideration given to the lighting of the exhibition rooms, and for this reason it is much better adapted to its present use as a club than for the purpose for which it was originally intended, that of a museum and school of art with picture galleries and class rooms. The former home of the Art Institute is of some importance in that it marks the beginning in the West of a new influence in design, an influence that is consistently felt in the design of other buildings which followed its erection.

We have seen that in the old Academy of Fine Arts Building the architects obtained what may fairly be called an individual version of Romanesque. But they also practiced much in the free and Romantic style which aims not primarily at elegance, but at an effect of massiveness and vigor, and which has for its first object to break in upon the spectator's apathy. A most effective and conspicuous work of this kind is the First Illinois Regiment Armory, with its single great entrance or sally port burrowed into the solid lofty basement of rough granite, and with its superstruc-



THE ROOKERY, CHICAGO, 1891.
D. H. BURNHAM, ARCHITECT.



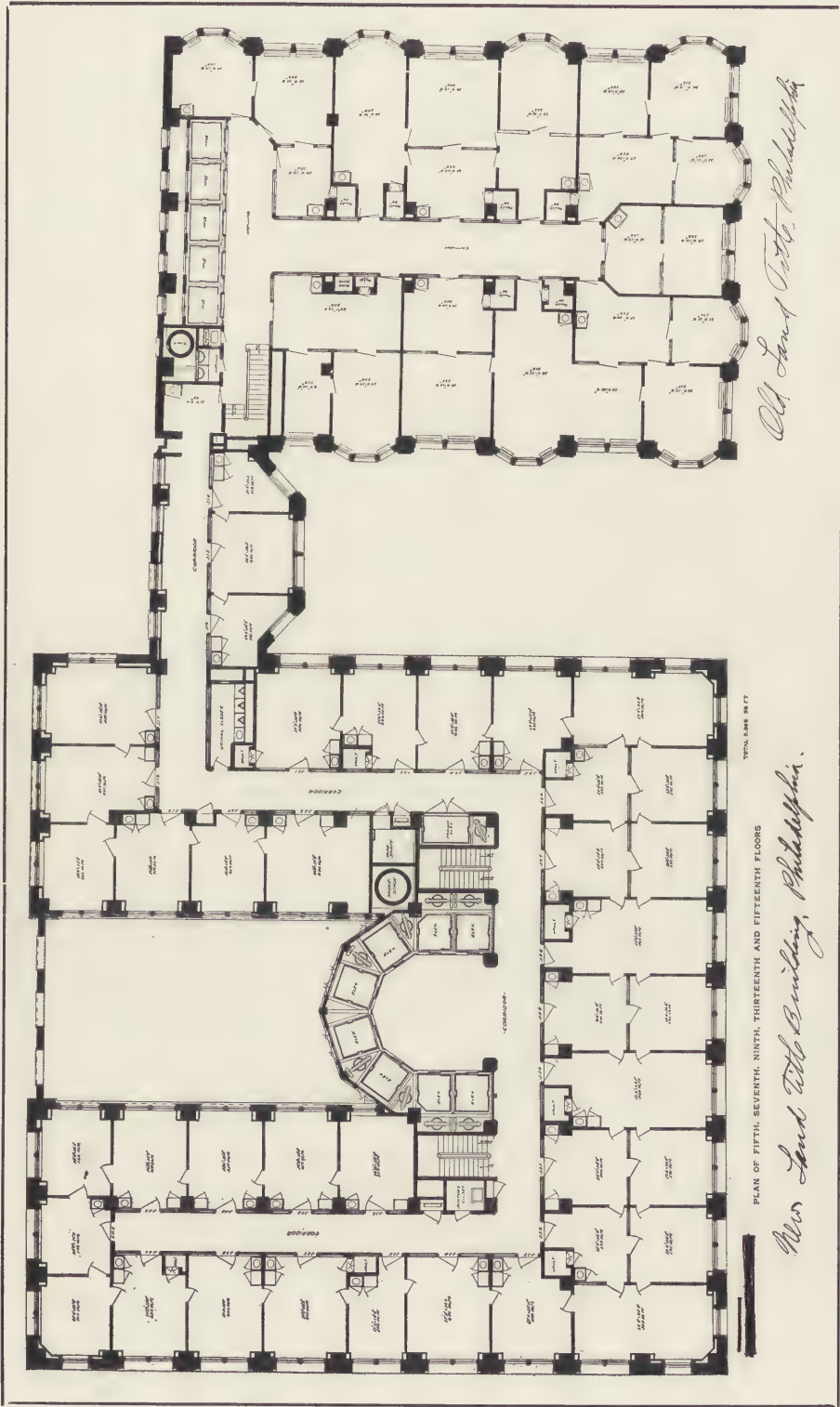
ELLCOTT SQUARE BUILDING, BUFFALO,
N. Y., 1892. D. H. BURNHAM, ARCHITECT.



ILLINOIS TRUST AND SAVINGS
BANK, CHICAGO, 1896. D. H.
BURNHAM & CO., ARCHITECTS.



LAND TITLE BUILDING, PHILA-
DELPHIA, 1897, 1904. D. H.
BURNHAM & CO., ARCHITECTS.



TYPICAL OFFICE FLOOR PLAN—LAND
TITLE BUILDING, PHILADELPHIA.
D. H. BURNHAM & CO., ARCHITECTS.

ture of brick work dotted with small openings, crowned with a single machicolated cornice, strengthened at the corners with vigorous barbicans. The slope of the wall is emphasized by making vertical the face of the central motif in which the entrance arch is cut, and the carefully placed double rows of company room windows in the brick wall high above, adds to the expressiveness of the design. This structure as a whole attains a nobleness of aspect which the designer has been very careful not to impair by the use of a single bit of ornament. It also shows a keen appreciation on the part of the architects of a problem which permits the use of large wall surfaces to a greater extent than almost any other type of building without violating the practical requirements. Some interesting essays have lately been made in military architecture, but it would be hard to name one of them superior in point of vigor and effectiveness to the First Regiment Armory. We must further bear in mind that this armory was completed in 1882, when architecture in America was indeed at a very low ebb.

Burnham and Root contributed enormously in the planning and in the architecture of many large and important commercial buildings, the erection of which type of building went forward in Chicago with a greater rapidity between the years of 1882 and 1892 than has ever been known in the world's history. It was during this period that tall buildings of ten and twenty stories had their first great development, taxing the engineering skill and architectural ability of the architect to the utmost, but Burnham and Root were always complete masters of the situation in all its manifold details.

When this firm built the old Montauk Block, the feat attracted a great deal of attention. It was the first successfully erected ten-story office building in Chicago, and by its success it proved to be the starting point in the career of Burnham and Root in the designing and erection of high office and mercantile buildings. It was done before the development of the "Chicago Construction" and at a time when the designer of a tall building was perforce thrown

upon his own resources. The Montauk Block was demolished many years ago to make room for a more modern structure, but it was one of the first examples of the possibility of altitude afforded by improved methods of construction and elevator equipment. It led the way and made possible the many buildings of this type which followed, including the Rookery, the Phoenix Insurance Building, now called the Western Union Building, and lastly the first section of the Monadnock Block. All of these were built with solid masonry walls, the Monadnock being sixteen stories above the sidewalk. In every one of these early buildings, as I have said before, the administrative faculty plays an important part, a part none the less valuable and none the less conspicuous than the artistic treatment of the design. The Rookery, for example, is not artistically so successful, either in mass or in detail, as are some other buildings of this firm, but at the time it was built it was perhaps the most impressive of all by reason of the thoroughness with which the plan was carried out to the last detail, as a matter not merely of artistic elaboration, but of practical administration. If it is not so impressive now, it is because such a project, when it is once successfully executed, becomes public property, and may be reproduced in variant until the spectator is apt to forget the original inventor and the fact that the arrangement he takes for granted was not always a commonplace. In many of the later office buildings of D. H. Burnham & Co. the gist of the scheme of the Rookery, the ample interior light court, glazed above the second floor and providing a dominant central feature on the ground floor, has been reproduced on a much more extensive scale. In the majority of cases the construction of these courts is a simple straightforward case of engineering. One cannot help seeing that the quality of the decorative ornament employed has very little to do with the impressiveness of the interior, which impresses by the faculty of planning that it displays and by the logical satisfaction of the practical requirements. The Monadnock Building is said



MERCHANTS' LOAN AND TRUST
BUILDING, CHICAGO, 1900. D. H.
BURNHAM & CO., ARCHITECTS.



CONTINENTAL TRUST BUILDING,
BALTIMORE, MD., 1900. D. H.
BURNHAM & CO., ARCHITECTS.



ENTRANCE TO FRICK BUILDING, PITTSBURGH.
D. H. Burnham & Co., Architects.

to have been Mr. Burnham's individual conception, and the simple force of need as a principle of beauty was the underlying thought that governed its outward appearance. The designer has deliberately renounced colonnades, mouldings and all other customary architectural embellishments, achieving his effect by a frank confession of the structural requirements which so conspicuously manifest that need, that in contemplating the bold interpretation one is apt to experience a singular emotion. In spite of this extreme austerity the Monadnock Building is as impressive as it is clearly expressive. The success of it comes from a series of subtle refinements that bring out the latent expressiveness of what without them would in truth be as bald as a box perforated with square holes.

An object lesson to the same effect is most strikingly inculcated in the later extension of the same building, in which the general disposition is followed and the forms repeated, but with a result not nearly so impressive. Certainly a

comparison of these two buildings is overwhelmingly in favor of the older. In this respect it is only fair to add that the original building is of self-supporting masonry walls, and that the extension is an early example of the developed steel cage construction.

The success of Holabird and Roche in erecting the Tacoma Building with exterior walls carried independently from floor to floor on wrought iron beams, which in turn were supported on cast iron columns carried down to the foundations, led Burnham and Root to design the old Rand, McNally Building in the same manner. This comparatively modern structure went to the scrap heap several years ago to make way for Mr. Burnham's latest creation, the Continental and Commercial National Bank Building.

After the successful introduction of skeleton construction, all the high buildings erected by Burnham and Root were of similar construction, including the highest and in many respects the most commendable of the tall buildings de-



ENTRANCE TO FRICK BUILDING
ANNEX, PITTSBURGH. D. H.
BURNHAM & CO., ARCHITECTS.



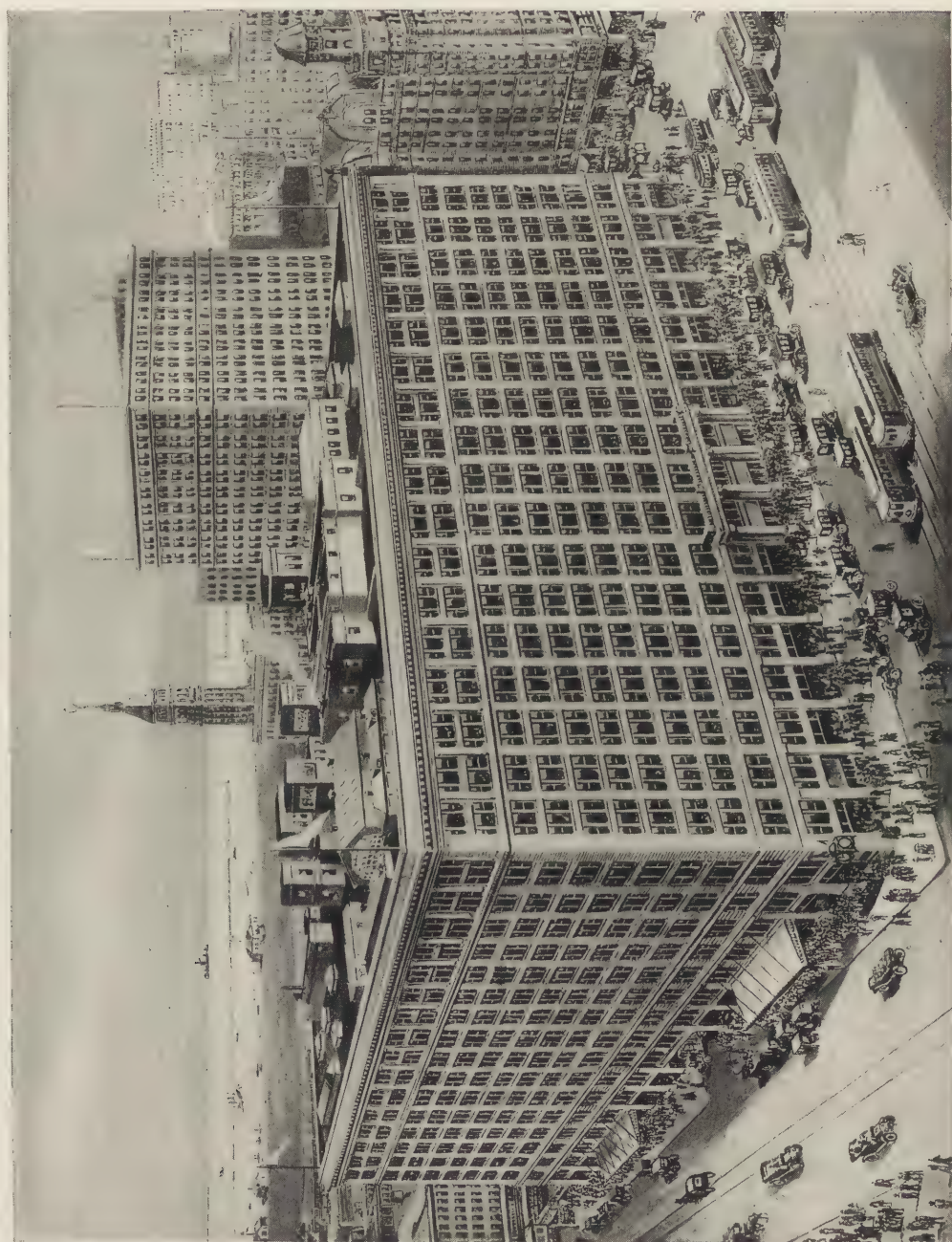
EAST AND WEST LOBBY—FRICK
BUILDING, PITTSBURGH. D. H.
BURNHAM & CO., ARCHITECTS.



STAINED GLASS WINDOW, SHOWING THE
FIGURE OF "FORTUNE," BY JOHN LA
FARGE—FRICK BUILDING, PITTSBURGH.
D. H. BURNHAM & CO., ARCHITECTS.



FRICK BUILDING, 1901, AND
FRICK ANNEX, 1905, PITTSBURGH.
D. H. BURNHAM & CO., ARCHITECTS.



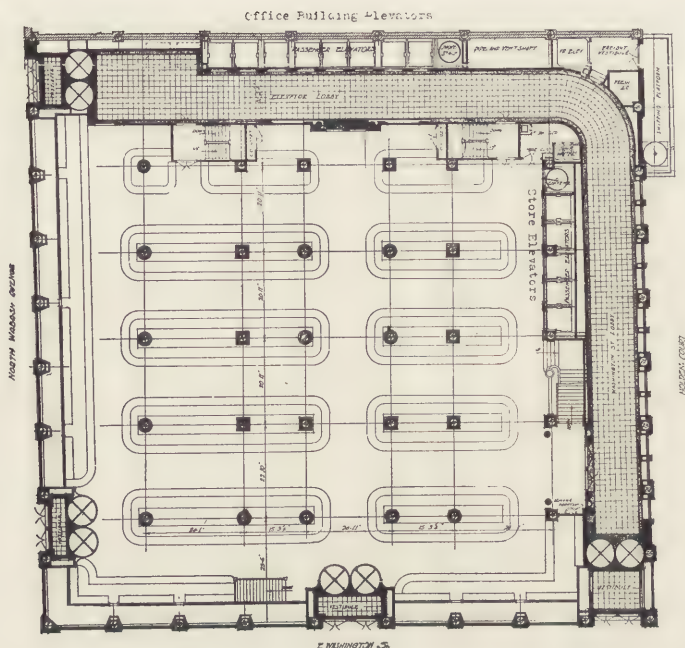
PERSPECTIVE—MARSHALL FIELD & CO.'S RETAIL STORE
AND ANNEX, CHICAGO, 1902, 1914. D. H. BURNHAM
& CO. AND GRAHAM, BURNHAM & CO., ARCHITECTS.



RETAIL STORE OF MARSHALL FIELD & CO.,
CHICAGO, 1902, 1914. D. H. BURNHAM & CO.
AND GRAHAM, BURNHAM & CO., ARCHITECTS.



OLD ANNEX BUILDING OF MAR-
SHALL FIELD & CO., CHICAGO, 1892.
D. H. BURNHAM & CO., ARCHITECTS.

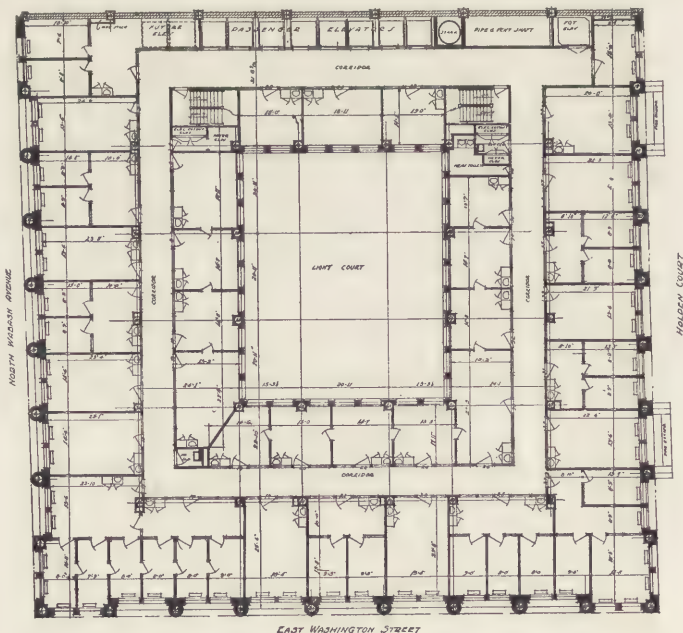


FIRST FLOOR—MARSHALL FIELD & CO., NEW ANNEX.

signed by Root. I refer to the Masonic Temple, corner of State and Randolph streets, which at the time of its completion held the short lived distinction of being the "highest office building in the world," rising twenty stories above the ground. Here we find one of the earliest attempts to solve the entirely new element in design which was let in by the sudden enlargement of the vertical dimension, an element which most of the designers of the day seem to have taken a special delight in disguising by the introduction of a monotony of horizontal lines brought about by the use of cornices and in some instances superimposed orders in groups of two or three stories. It is also one of the first attempts to deal intelligently with a structural change

so radical that it has practically abolished the wall, which is the chief datum of every one of the historical styles of architecture, excepting only the developed Gothic. The Aristotelian precept of a beginning, a middle and an end, corresponding to one separate handling of the bottom and top and a uniform arrangement of the shaft no matter of how many stories it may happen to consist, is the scheme followed for the exterior treatment of this skyscraper. In the long vertical lines of the superstructure the structural cage is frankly expressed, and although the envelope is of brick work, it rather

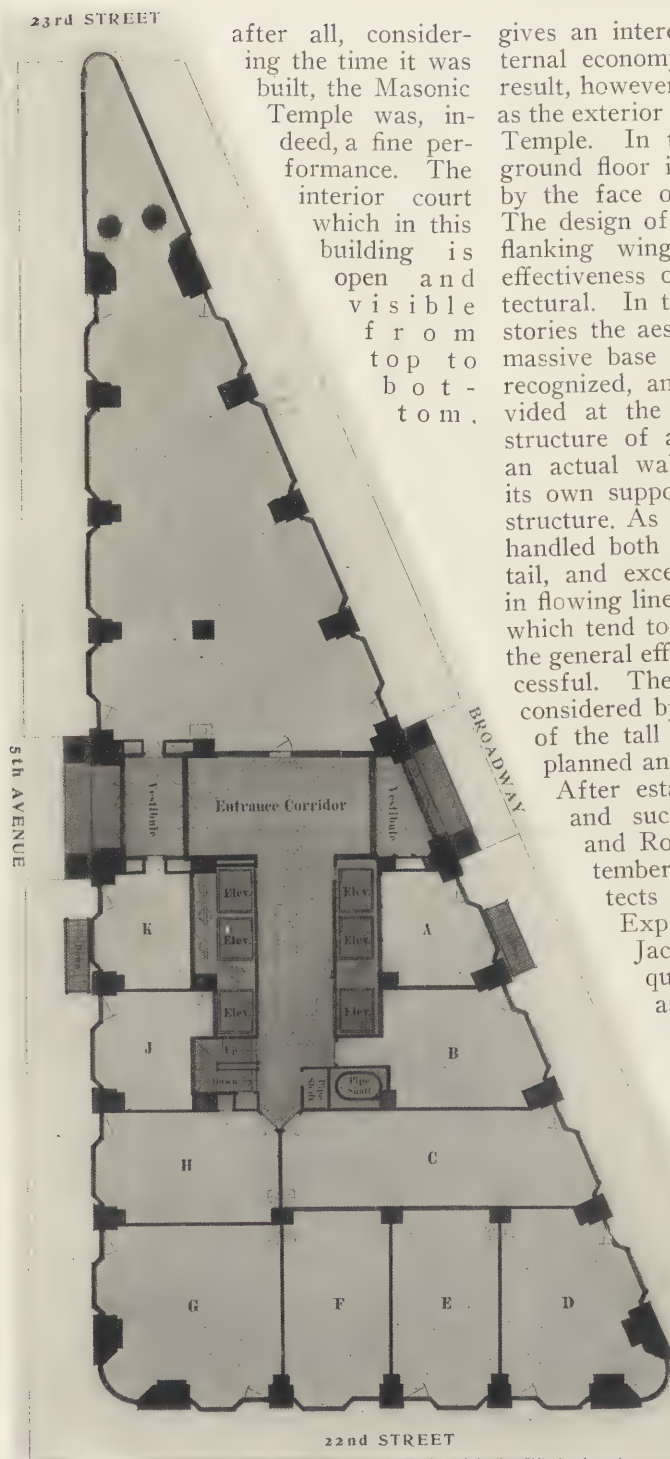
accentuates than dissembles the continuous piers between the three lower stories and the three top stories. At the top alone is there any contradiction of the actual structure, but



SEVENTEENTH FLOOR—MARSHALL FIELD & CO., NEW ANNEX.



NEW ANNEX BUILDING OF MAR-
SHALL FIELD & CO., CHICAGO, 1913, 1914.
GRAHAM, BURNHAM & CO., ARCHITECTS.

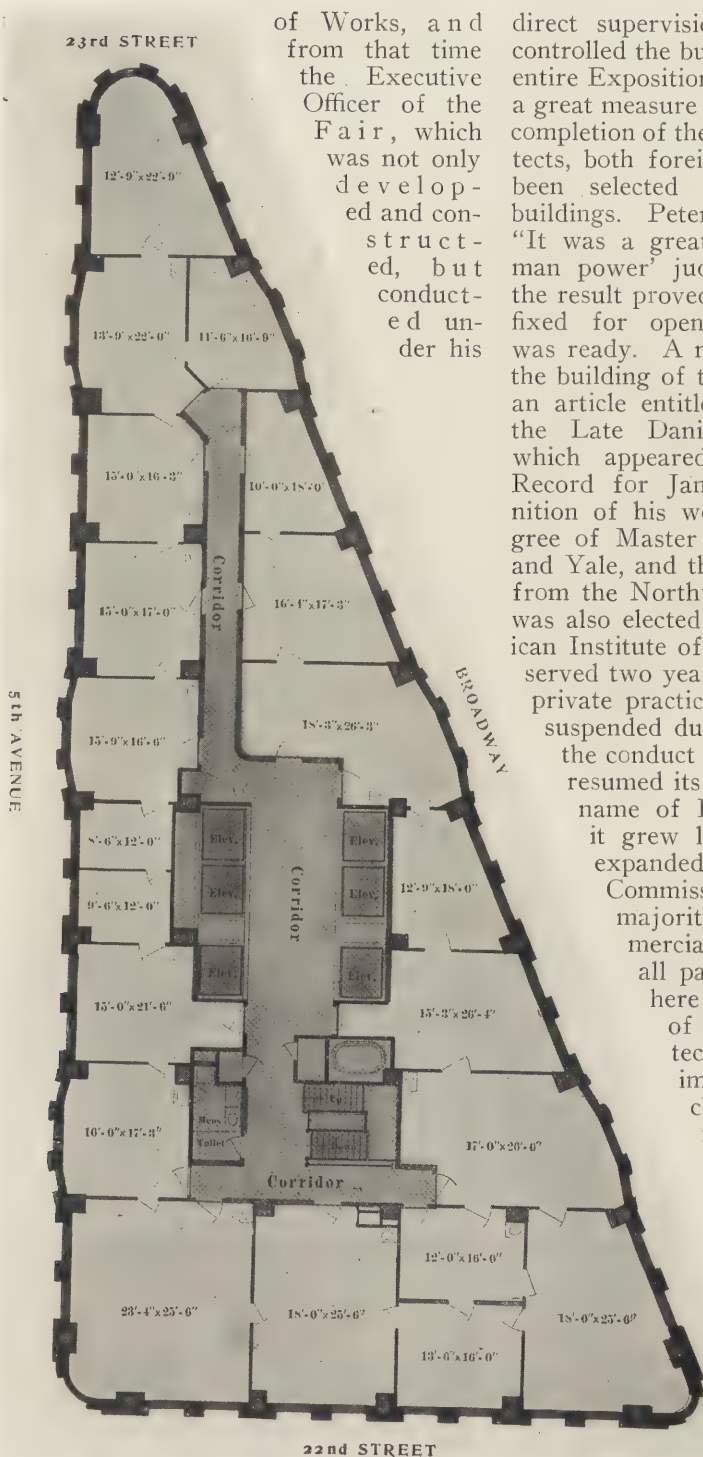


GROUND FLOOR—FLATIRON BUILDING, NEW YORK.
D. H. Burnham & Co., Architects.

after all, considering the time it was built, the Masonic Temple was, indeed, a fine performance. The interior court which in this building is open and visible from top to bottom,

gives an interesting insight into the internal economy of the huge pile. The result, however, is not nearly so effective as the exterior court plan of the Woman's Temple. In this, the court above the ground floor is enclosed on three sides by the face of the building around it. The design of the central portal and its flanking wings produce a result the effectiveness of which is strictly architectural. In the treatment of the lower stories the aesthetic necessity of a more massive base to the structure has been recognized, and the base has been provided at the expense of ignoring the structure of a cage, and by making it an actual wall, apparently adequate to its own support and that of the superstructure. As a whole, the design is well handled both in composition and in detail, and except for an overindulgence in flowing lines and undulating surfaces, which tend to destroy the tranquillity of the general effect, the result is highly successful. The Woman's Temple is still considered by many the most beautiful of the tall buildings which Burnham planned and Root designed.

After establishing a very extensive and successful practice Burnham and Root were appointed in September, 1890, Consulting Architects of the World's Columbian Exposition. Later when the Jackson Park site was acquired, Mr. Root, with the assistance of Frederick Law Olmstead, and guided by many valuable suggestions from Mr. Burnham, evolved a preliminary scheme of the Fair buildings, grounds and waterways, which ultimately became the basis of the general plan which was carried out. After the untimely death of his partner in 1891, Mr. Burnham was made Director



TYPICAL OFFICE FLOOR—FLATIRON BUILDING, NEW YORK.
D. H. Burnham & Co., Architects.

of Works, and from that time the Executive Officer of the Fair, which was not only developed and constructed, but conducted under his

direct supervision. He organized and controlled the building operations for the entire Exposition, and was responsible in a great measure for the artistic unity and completion of the work of the many architects, both foreign and native, who had been selected to design the various buildings. Peter B. Wight has written: "It was a great demonstration of 'one man power' judiciously imposed"; and the result proved this, for when the time fixed for opening arrived everything was ready. A more detailed account of the building of the Fair can be found in an article entitled "An Interview With the Late Daniel Hudson Burnham," which appeared in the *Architectural Record* for January, 1913. In recognition of his work, he received the degree of Master of Arts from Harvard and Yale, and that of Doctor of Science from the Northwestern University. He was also elected President of the American Institute of Architects in 1893, and served two years in that capacity. His private practice was to a large extent suspended during his absorption with the conduct of the Fair, but after he resumed its direction under the firm name of D. H. Burnham & Co., it grew larger than ever and it expanded over the United States. Commissions for big work, the majority of which was commercial, began to pour in from all parts of the country, and here is where the character of Mr. Burnham's architecture went through an important change; a change which was influenced partly by the influx of the Ecole des Beaux Arts talent which played such a conspicuous part in the architectural display at the Fair, and partly by a general classic revival which began to make its appearance for the first time in the West. He became more



FIFTH AVENUE ENTRANCE—FLATIRON BUILDING, NEW YORK.
D. H. Burnham & Co., Architects.

conservative, and after a brief period of hesitancy, during which time the Reliance Building was designed, the work of D. H. Burnham & Co. showed a marked tendency to adopt into their designs the historical precedents that McKim, Mead and White had become so adept in interpreting for modern use. The Reliance Building was the "swan song" to the old traditions, based on independence of design for which were noted the works of Burnham and Root. It stands today a symbol of our inconsistency and an ample proof that no sooner do we approach a common way of working than the promise of a truly expressive style of American architecture is broken by the capricious introduction of a new fashion. Perhaps it is because the design of this building has been rather the statement of a problem than the solution of it, and that the white envelope of terra cotta is confessedly a covering, and does not in the least simulate a structure nor dissemble the real structure, that the same designers fall back in the design of the

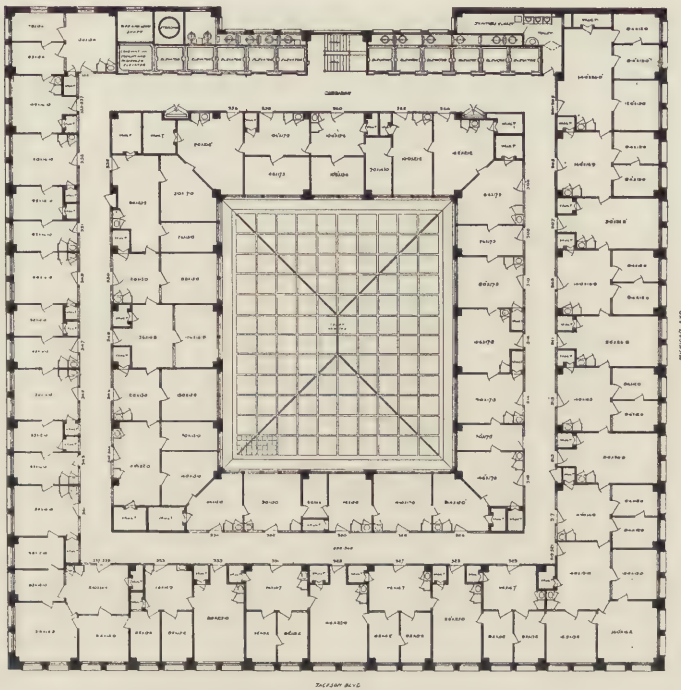
first Field Annex to the use of an architectural treatment which does simulate a structure of masonry and is meant to be judged as such. This change of point of view is very suddenly effected, and the outcome is a skeleton structure abundantly covered with rich Renaissance details, abounding in cornices and arches from the sidewalk up through nine stories to the crowning, generous, main cornice. The composition is in three divisions of three stories each, carefully accentuated by the difference in material and color. If we are to base our remarks on the principle that architecture in order to be vital must be organic, then the architectural value of the Field Annex is of minor significance; if, on the other hand, we are to judge solely from outward appearances and their effect upon the emotions, it must be granted that the design of this building possesses architectural distinction. To begin with, so long as the tall building was constructed with real masonry walls it was still possible to follow the analogy of the three or five



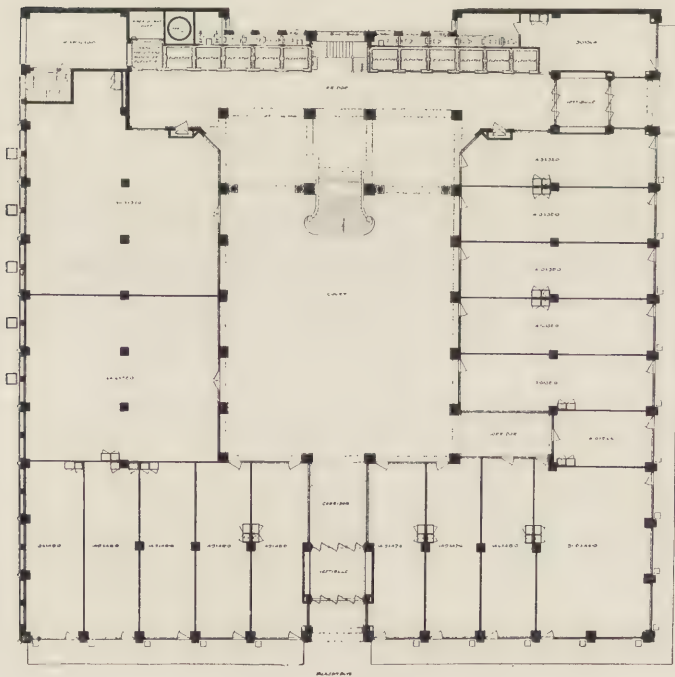
FLATIRON BUILDING, NEW YORK, 1902.
D. H. BURNHAM & CO., ARCHITECTS.



RAILWAY EXCHANGE BUILDING, CHICAGO,
1903. D. H. BURNHAM & CO., ARCHITECTS.



Third Floor Plan.



First Floor Plan.

THE RAILWAY EXCHANGE BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



DETAIL—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.

story building by making the architectural divisions multiples of the actual stories, but when the actual stories grew into their teens, and the solid masonry walls were replaced by skeleton construction this treatment was no longer feasible. There was no further need of self-carrying walls, for the wall was practically eliminated as far as its structural importance was concerned; therefore it was no longer necessary to cover the cage with irrelevant masonry in an effort to imitate stone architecture. Still it is safe to assume that the architects of that time, confused by the sudden introduction of a new system of construction which in itself was structurally sound and independent of foreign tradition, should turn to their fountain of architectural knowledge and proceed to express tall buildings in terms of historic architecture. It requires, however, but a casual study of the structural conditions upon which modern construction is dependent, to realize that the laws of Vignola were not drawn to solve such problems as those with which the de-

signer starts out to illustrate them. Surely the difficulties are not lessened when classical detail is employed, for the moulding and ornaments, increasing with the module of measure, tend to sacrifice the space in the facade that is needed for light and air, which to say the least is a costly procedure. The fact remains that the artistic effectiveness of the old Field Building is brought about by the skill of the designer in his emphasis and his subordinations, in the careful handling of his masses, in the scale of his detail, and in the study given the entire design regardless of the metal frame doing the work. And so, whereas the old Field Annex, interesting as it is by the architectural scholarship it evinces, is not a solution of the problem, but an evasion of it, so the Reliance Building, intelligent as it is by its straightforward and unconventional treatment, is not an artistic solution of the problem, but only a statement of it.

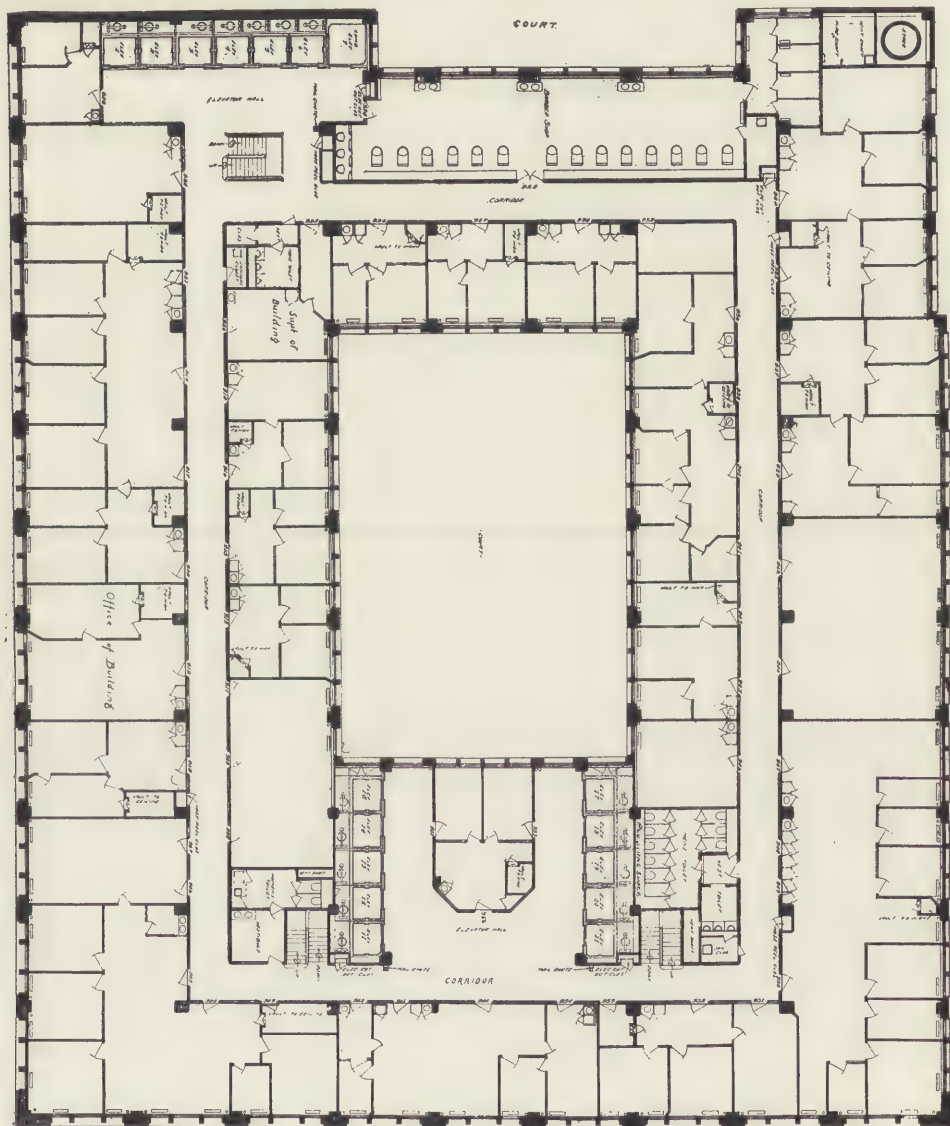
Here are two buildings, designed about the same time and both dependent structurally on a steel skeleton frame, but in



FIRST NATIONAL BANK, CHICAGO, 1903.
D. H. BURNHAM & CO., ARCHITECTS.

which the underlying principles of design as applied to outward appearances can be fairly said to be diametrically opposed. Burnham and his associates no doubt carefully weighed these two results before arriving at the decision which the tall buildings of this firm that followed seemed to express. And that opinion plainly states that a satisfactory solution, one that will meet the artistic

as well as the structural requirements, was to be found somewhere between these two extremes. At any rate, such seems to have been the case, for in the Merchants' Loan and Trust Building the treatment of its design is neither a denial of the structural cage nor a frank confession of it. It was, instead, a direct bit of commercial architecture substantially conceived with an excellent ar-



TYPICAL OFFICE FLOOR—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.

rangement of large windows raised high above the floor, broad and low, and shaped as they ought to be for utilitarian purposes. Although classic detail is employed the utilitarian aspect of the fronts was not sacrificed. The architects do not subordinate the economic efficiency and productiveness of this building to an exterior effect, nor do they subject convenience in any great degree to the exigencies of mere appearance. They simply present a solution of the problem in which classic details are successfully adapted to the needs of a building devoted to strictly commercial functions. How much further the designers could have contributed to the artistic merit of this structure is a matter of conjecture. One thing is certain, and that is the base, shaft and capital treatment, devoid of all ornament and crowned by a large dignified cornice, completes the effect of a vigorous stone architecture that the design without doubt was meant to convey. The large glass fronts of the two lower stories alone seem to suffer in contrast with the apparent solidity of the superstructure, causing the illusion that the stone facing is self-supporting above the second story. This solidity testifies in a large measure to a lack of appreciation of the vertical expression in high buildings. At the base the piers are Doric pilasters supporting a well proportioned attic story which gracefully marks with horizontal lines the transition from the large square openings below to the uniformly arranged windows of the plain shaft. The strong stone transom that faces the floor line between the banking room and the store below is obviously meant to assure the eye of the stability of the tenuous piers. A separate treatment of the top two stories, acting as a crowning order, skillfully knits the body of the structure to the massive main cornice above, adequate in its proportions for a full order the entire height of the building. By leaving plain the supporting piers and by paneling the spandril sections that occur between the head and sill of the shaft windows, the skeleton steel frame which is otherwise cleverly concealed was permitted slightly to articulate. This solution is one which

satisfied to a great extent at least both Mr. Burnham and his clients, and decidedly it must be included in any collection of examples to show what our architects have made of the architectural problem presented by the skyscraper. In a number of tall buildings erected by Burnham & Co., the main points of the scheme governing the exterior treatment of the Merchants' Loan and Trust Building were followed with slight variations. Among the later buildings of this type can be mentioned Marshall Field's Retail Store occupying an entire city block on State Street. All of these buildings display a highly developed knowledge of construction and the use of costly finishing materials throughout both the exterior and interior. They bear ample proof that the modern business man was not adverse to the expenditure of large sums of money for the assumed æsthetic appearance of his building, provided he could be made to appreciate that attractiveness in general design adds materially to the revenue productiveness of his enterprise. Mr. Burnham has been able to convince his clients to this end, to greater success than perhaps any other architect in this country, and the buildings of his firm prove it. They set a standard of equipment and finish that actually created a public demand for high class commercial buildings which fairly forced the owner to meet this demand. Hence, we have become accustomed to beautifully designed bronze and metal elevator grills, marble halls, ornate ceilings, and occasional banking rooms elaborately arranged, exquisitely furnished and fully equipped from the huge safe down to the smallest inkwell; all "subject to the design and approval of the architects."

Passing over many of the intermediary office buildings from which the strict utilitarianism of the design does not, however, exclude architectural features marked by ingenuity and cleverness, let us consider an individual bank building which is one of their most distinctive successes. I refer to the Illinois Trust and Savings Bank at the northeast corner of Jackson Boulevard and LaSalle Street, which at the time it was completed, in 1896, attracted wide attention.



PRESIDENT'S ROOM — FIRST NA-
TIONAL BANK, CHICAGO, • D. H.
BURNHAM & CO., ARCHITECTS.



INTERIOR—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.



INTERIOR—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.



INTERIOR—FIRST NATIONAL BANK, CHICAGO.
D. H. Burnham & Co., Architects.

It has the advantage of being situated on one of the most frequented corners in the city, commanding not only a prospect but possessing a background of inordinate altitudes giving it a striking setting that is in some ways unique. Another advantage is that it is not an office building but a bank, and that the designer was left at liberty to give more study to the solidity of his architecture without fear of compromising the stability of the building, than if he had been doing an office building. Moreover the effect one gets of the Illinois Trust and Savings Bank when viewed from a distance is due to the impressiveness of a two-story monumental building occupying one of the choicest corners in the business heart of Chicago—augmented by scholarly architectural display. It is an essay in classic architecture achieved by the application of a simple and well proportioned Corinthian order. The skill and ingenuity are noteworthy by which the designer has managed to give the corner pavilions flanking the portico an

air of solidity and effect of abutment, while in fact even here the area of the window openings is equal to that of the uniform side windows. At the same time the strength of the corner pavilions adds to the effectiveness of the well spaced colonnade which counts as a portico practically the full width of the main elevation leading to the entrance. By raising the portico on a platform of four steps, its unity is emphasized and the design is further enhanced. The delicately framed window openings, which are in themselves in perfect scale, and the carefully studied detail of the entire granite exterior present a masterly adaptation of academic architecture.

Inside, this building is no less interesting than the outside, for every department is carefully studied, and the architectural treatment was determined by the construction and uses of the place. The building is nearly square in plan and contains a large central banking room lighted from above by means of a well-designed



HEYWORTH BUILDING, CHICAGO, 1903.
D. H. BURNHAM & CO., ARCHITECTS.



FIRST NATIONAL BANK BUILDING,
CINCINNATI, OHIO, 1903. D. H.
BURNHAM & CO., ARCHITECTS.



INDIANAPOLIS TRACTION BUILDING,
INDIANAPOLIS, IND., 1903. D. H.
BURNHAM & CO., ARCHITECTS.



HIBERNIA BANK BUILDING,
NEW ORLEANS, LA., 1903. D. H.
BURNHAM & CO., ARCHITECTS.



THE WANAMAKER STORE,
NEW YORK, 1903. D. H. BURN-
HAM & CO., ARCHITECTS.



THE McCREERY STORE, PITTSBURGH, 1903.
D. H. BURNHAM & CO., ARCHITECTS.



BANK OF COMMERCE AND TRUST
CO.'S BUILDING, MEMPHIS, TENN., 1904.
D. H. BURNHAM & CO., ARCHITECTS.



FOURTH NATIONAL BANK, CIN-
CINNATI, OHIO, 1905. D. H. BURN-
HAM & CO., ARCHITECTS.



ORCHESTRA HALL, CHICAGO, 1905.
D. H. Burnham & Co., Architects.

skylight. About the central feature the administrative offices are most efficiently arranged. They are distributed in two stories, within easy access of the public, and with windows overlooking the street. For the general disposition of the plan there was no fixed precedent, and the forms resulting from this distinction have the welcome effect of unsought novelty.

At this stage it is pleasant by way of variety to come upon a group of buildings far removed from commercial clamor and strife. A visit to the

extensive park areas and playgrounds that come under the supervision of the South Park Board in Chicago will no doubt reveal even to the most casual observer a quality of beauty and order prevalent throughout this system which is due in a large measure to artistic consideration given the general layout; and wherever buildings or pavilions occur it is at once evident that the buildings are admirably treated in a just relation to the surroundings. Here we find terraces, trellises, arbors, flower beds, lagoons, trees and shrub-



SCHMIDLAPP MEMORIAL LIBRARY, CINCINNATI, OHIO, 1905.
D. H. Burnham & Co., Architects.

bery, all designed in the most intimate connection to the building or group of buildings about which the landscape gardening harmoniously takes its place. For this reason alone we are bound to include among the most successful park buildings in America the neighborhood buildings for the South Park Commissioners, Sherman Park, Bessemer Park and Armour Square; and the South Park Commissioners' Administration Building at Washington Park, erected in the order named, in the short period from 1910 to 1913.

It is gratifying to look over the park buildings which I have named, and even the most superficial examination will disclose appropriateness and charm. In this respect a great deal of credit was due to Mr. Burnham's personal effort, for in line with his city planning work he took a keen interest in the artistic and practical development of playgrounds and their suitable buildings. He felt they should be built for the express purpose of giving the public the best possible opportunity to associate

the beautiful in nature with the beautiful in architecture, and further, that this could not be better accomplished than by means of well designed buildings placed in public parks. The type of architecture, he argued, should be impersonal, because public establishments such as these must be formed out of the many elements put together with propriety, technical knowledge and architectural effect. Although the requirements of the plan were many and the logical expression of prevailing conditions were of first importance, he held that the building should not be planned on too grand a scale, because in that case, it would falsify the lives and ambitions of the people for whom it was intended. Accordingly, Mr. Burnham and his associates have designed for Chicago's city parks, buildings and gardens possessed of distinction and style without being pretentious or grandiose, and they have been able to achieve their conspicuous success at least partly because they have remained loyal to the spirit which

prompted the erection of these buildings.

Moreover, by virtue of their skill in design they have added a certain unity of conception pervading the entire scheme. This, together with the charm and delicacy of proportion and detail, although ample and dignified, gives the buildings a semi-domestic character. As a result we should no doubt find these comprehensive park groups as worthy of being held up as examples, for their general excellence in plan as for their purely artistic merit.

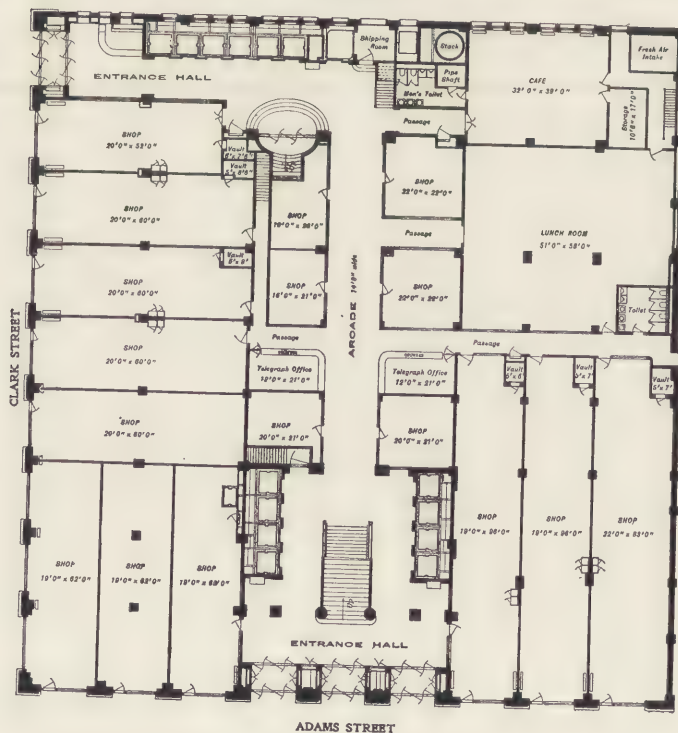
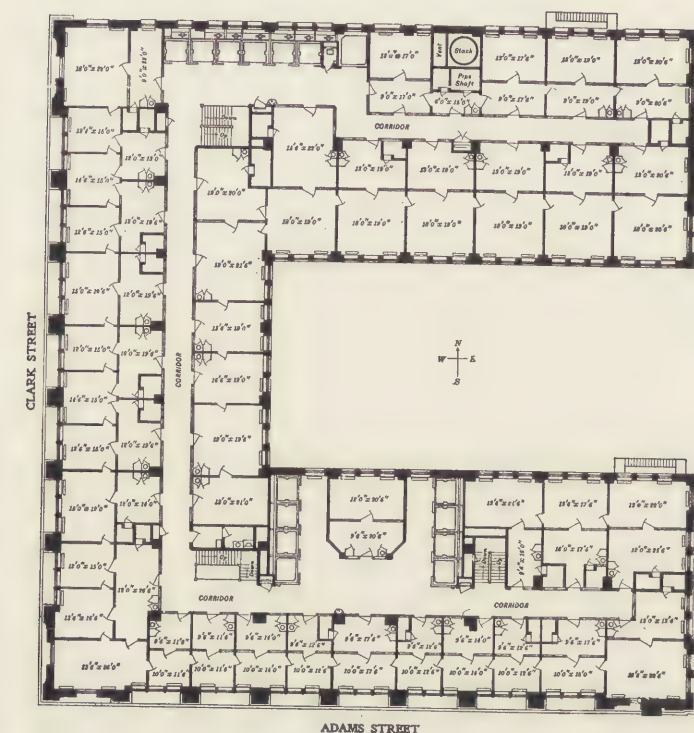
In the design of many monumental buildings which were not of a strictly commercial nature, D. H. Burnham & Co. placed before the public familiar and beautiful classic forms which could be readily comprehended without any extraordinary individual imaginary effort. Among the most important of these buildings are, the Union Station and New Post Office in Washington, D. C., the St. Louis County Court House, in Duluth, Minn., and the Rock Island Savings Bank, in Rock Island, Illinois, a railroad terminal, a post office, a court house, and a bank, re-

spectively, worthily embodying in their design the spirit of a great historic past interpreting to the public the lesson in architectural history which it no doubt had to learn. In each case it is apparent that the men entrusted with the design of these buildings were not betrayed by an illusive pursuit of mere originality, and that they were principally concerned with the logical solution of their problem, based on the assumed interest and preference of their clients. Further, the designer's choice of traditional academic architecture has been the natural result of Beaux Arts training received in Paris, and this training, whatever its disadvantages may be, effectually prevents its beneficiaries from any such transposition of fundamental architectural values as are involved in the sacrifice of utilitarian requirements of the building to its design.

These semi-public and public buildings consequently are distinguished both by their beauty and their popularity. They demonstrate that the designers of this firm have held their own even in a sphere in which their well-



SIMMONS MEMORIAL LIBRARY, KENOSHA, WIS., 1899.
D. H. Burnham & Co., Architects.



GROUND FLOOR AND TYPICAL OFFICE FLOOR—EDISON BUILDING, CHICAGO.



EDISON BUILDING, CHICAGO, 1905.
D. H. BURNHAM & CO., ARCHITECTS.



CHESTNUT STREET ENTRANCE—THE WANAMAKER STORE, PHILADELPHIA.
D. H. Burnham & Co., Architects.

known devotion to conscientious planning might have been supposed to place them most at a disadvantage. It is evident, however, by the examples which are herewith mentioned, that every new design is approached from a fresh point of view special to that job. In the cases of the Union Station and the new Post Office, which were designed in accordance with the accepted scheme for the beautification of the capital city at Washington, it is at once apparent that the designers were thorough masters of the situation and were successful in adapting the prescribed architectural style to the practical requirements of these two monumental structures. Thus the results here achieved are partly due to a guiding influence of sound classic tradition.

The particular architectural forms resulting from this influence can be assuredly explained to a great extent at least by certain necessities of the plan rather than the design. This is especially true in a building like the Union Station, which, acting as a gateway to the national seat of government, must

be monumental in its effect, while at the same time it must meet a group of exacting and complicated requirements. In this respect a careful study of its entire plan is recommended in order that the ingenious manner by which the various units of its composition have been united and given architectural significance may be noted.

The design of the plaza with its monumental treatment about which the station and post office majestically take their place is also from the office of Burnham & Co., as is the Columbus Memorial. In this last, however, a great deal of credit must be given to Lorado Taft, the sculptor, who was responsible for the figures adorning this monument. The entire plaza, which is part of the Washington Plan, was completed about four years ago. The Union Station was built in two sections. Its construction covered a period of four years, during which regular train service was maintained. It was finally thrown open to the public in 1906. The decorative sculpture, both interior and exterior, was done by the late Louis St.



GRAND COURT—THE WANAMAKER
STORE, PHILADELPHIA. D. H.
BURNHAM & CO., ARCHITECTS.



DETAIL OF SOFFIT UNDER ORGAN
LOFT IN GRAND COURT—THE WANA-
MAKER STORE, PHILADELPHIA. D. H.
BURNHAM & CO., ARCHITECTS.



DETAIL OF CEILING IN GRAND COURT—
THE WANAMAKER STORE, PHILADELPHIA.
D. H. BURNHAM & CO., ARCHITECTS.

Gaudens brother of the noted Augustus St. Gaudens—and is remarkable as a formal use of sculpture in the light of architectural accessory. The United States Post Office has been in commission a little over one year.

yet, with all its French distinctiveness of style, one would not expect to come across anything like it in Paris or any other French city. To say further that it is typical of New York hotel architecture would almost be to censure it



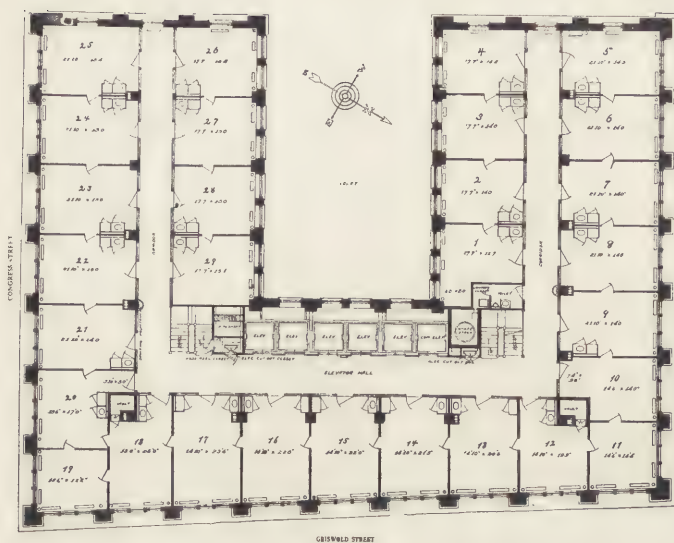
THE WANAMAKER STORE, PHILADELPHIA, 1905, 1909.
D. H. Burnham & Co., Architects.

Owing to the limited space at hand, we will pass on at this point to a building which, although it might be considered a skyscraper, is not an office building. And if further proof may be required to show versatility in design of Burnham & Co. and the many talented designers of this firm, the Hotel Claridge furnishes that proof. Here is a building that bears the earmarks of good French architecture in both its interior and exterior design, and

with faint praise, for it is indeed a distinctive and successful building attaining an architectural effect that is far ahead of the many French Renaissance designs of this character with which that city is generously sprinkled. It is true, however, that in this hotel the architects have profited from the excellence of French training and have detected the advantages of adopting French forms; but they have done so in a manner which is at once sympa-



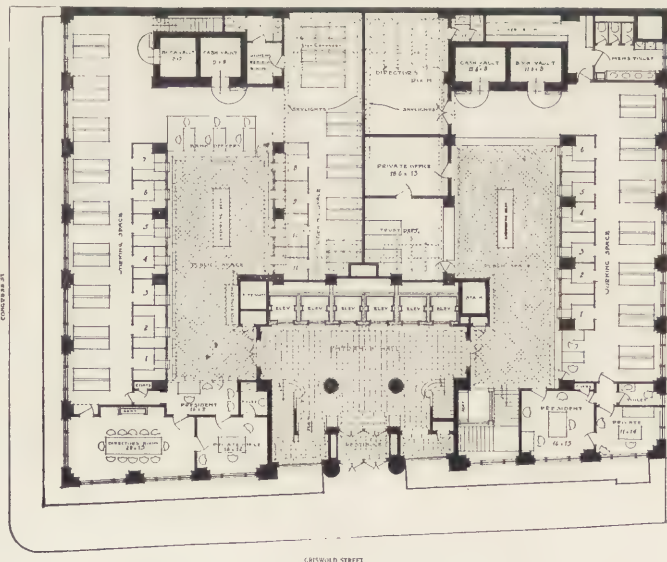
SELFTRIDGE DEPARTMENT STORE,
LONDON, ENGLAND, 1906. D. H.
BURNHAM & CO., ARCHITECTS.



TYPICAL OFFICE FLOOR—FORD BUILDING, DETROIT.

thetic, spirited and discriminating. Towards this end they have followed not the contemporary French fashion, but the time-honored traditions of style, while at the same time they have transformed this tradition to the practical need of the building by the special treatment of each requirement on its own particular merits. It is clear that the designers of the Hotel Claridge have acted in this spirit and that they have produced a building impressive by the disposition of its masses and by the manner in which they are punctuated by the openings. The differently shaped windows of the four lower stories are evidently the result of careful study based on the logical requirement of the plan, as are also the large and small windows formally arranged of the upper stories. At the top the need of a crown was felt, and this crown was provided in the shape of a mansard roof interestingly treated with well proportioned dormer windows which mark the culmina-

tion of the long rows of windows below. By strengthening the corner pavilions and by uniting at this point the stone work of the lower stories with the combination brick and stone effect of the upper stories, the artistic appearance of the building is further enhanced. This has been accomplished by the introduction of stone quoins at the corners set flush with the brick work of the uniform shaft. The result is a charming bit of stone and brick architecture substantially conceived, regardless of the structural steel cage. In this respect it is at once obvious that nothing was more remote from the designers' minds than the possibility of arriving at an outward expression which not only involves the functions of the building but also the structural conditions upon which it is dependent. However, until a more enlightened solution of the hotel problem is forthcoming, we are bound to accept it as a well studied piece of design admirable alike in composition and in detail.



FIRST FLOOR—FORD BUILDING, DETROIT.



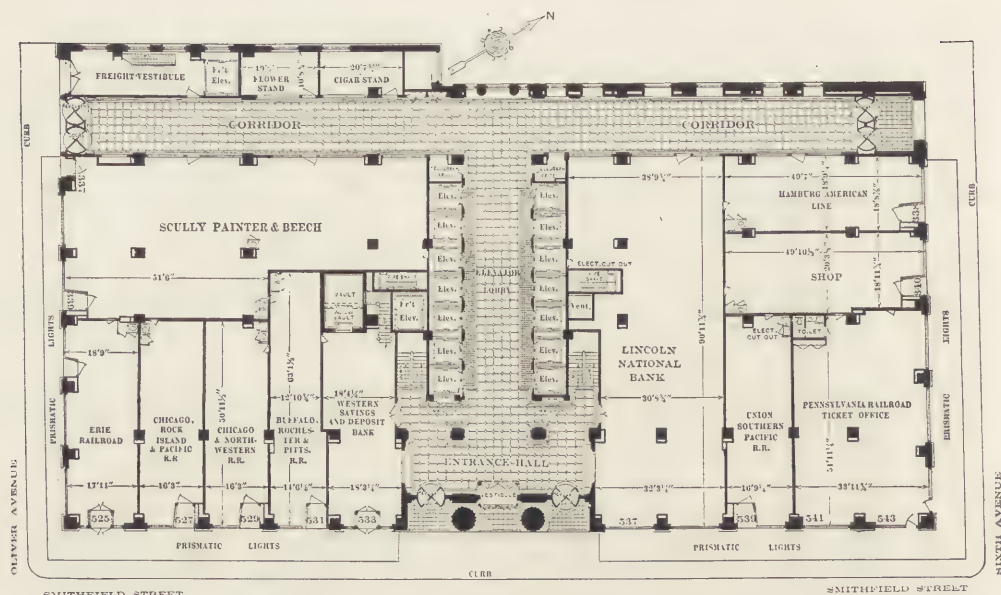
FORD BUILDING, DETROIT, MICH, 1908.
D. H. BURNHAM & CO., ARCHITECTS.



MERCHANTS' NATIONAL BANK, IN-
DIANAPOLIS, IND., 1907, 1909. D. H.
BURNHAM & CO., ARCHITECTS.



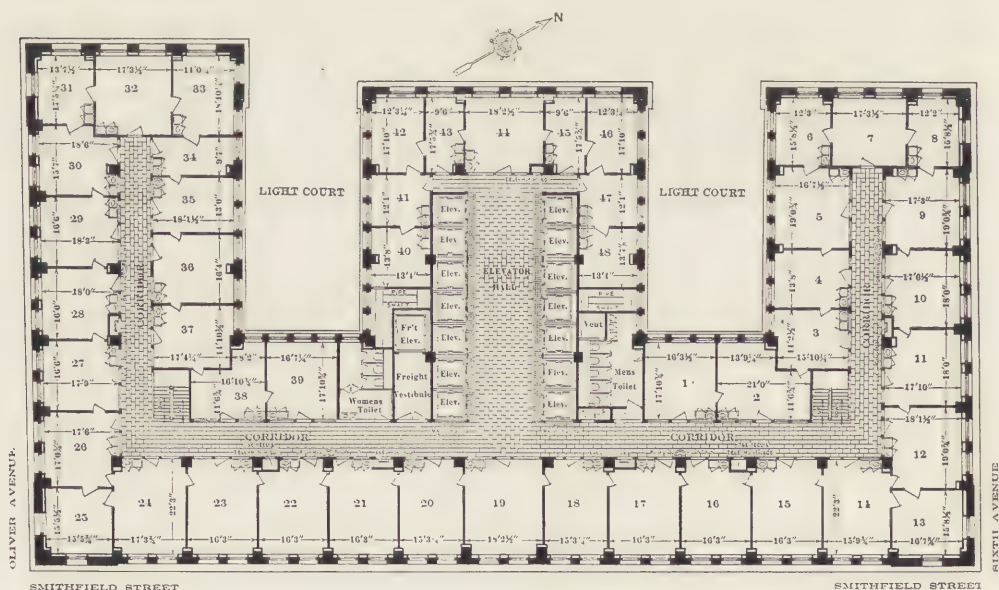
ALMS AND DOEPKE DEPARTMENT
STORE, CINCINNATI, OHIO, 1908.
D. H. BURNHAM & CO., ARCHITECTS.



FIRST FLOOR PLAN—OLIVER BUILDING, PITTSBURGH.

The later works of Burnham & Co. and those produced under the new firm name of Graham, Burnham & Co., show a marked tendency along new lines of departure. This is evidenced in the Filene store in Boston which has a special interest on account of the conformation of its design to its mod-

ern requirements. The problem was here solved with much ingenuity as a way of conciliation between the traditional architecture of this firm's earlier department stores and a more modern influence in design. It was attained by treating the main glass areas of the facade above the first story to a frame



TYPICAL OFFICE FLOOR PLAN—OLIVER BUILDING, PITTSBURGH.



OLIVER BUILDING, PITTSBURGH, PA., 1908.
D. H. BURNHAM & CO., ARCHITECTS.



FLEMING BUILDING, DES MOINES, IOWA.
1909. D. H. BURNHAM & CO., ARCHITECTS.



ST. LOUIS COUNTY COURT HOUSE, DULUTH, MINN.
1909. D. H. BURNHAM & CO., ARCHITECTS.



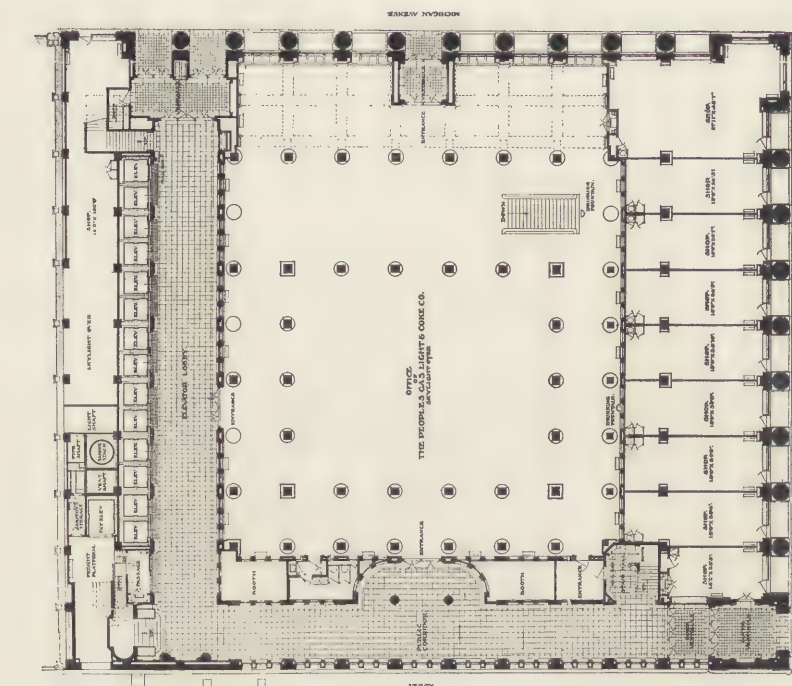
SCANLAN BUILDING, HOUSTON, TEXAS,
1909. D. H. BURNHAM & CO., ARCHITECTS.



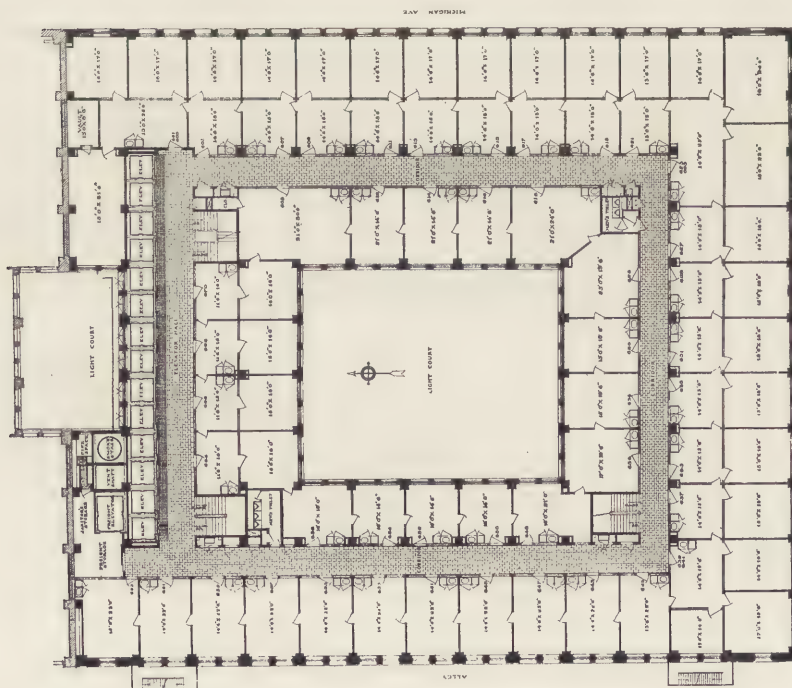
INTERIOR—PEOPLE'S GAS BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



INTERIOR—PEOPLE'S GAS BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



FIRST FLOOR—PEOPLE'S GAS BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



TYPICAL OFFICE FLOOR—PEOPLE'S GAS BUILDING, CHICAGO.
D. H. Burnham & Co., Architects.



PEOPLE'S GAS BUILDING, CHICAGO, 1910.
D. H. BURNHAM & CO., ARCHITECTS.



OLD NATIONAL BANK BUILDING,
SPOKANE, WASH., 1910. D. H.
BURNHAM & CO., ARCHITECTS.



HOTEL CLARIDGE, NEW YORK, 1910.
D. H. BURNHAM & CO., ARCHITECTS.



FRISCO RAILWAY TERMINAL STATION, NEW ORLEANS, 1908.
D. H. Burnham & Co., Architects.



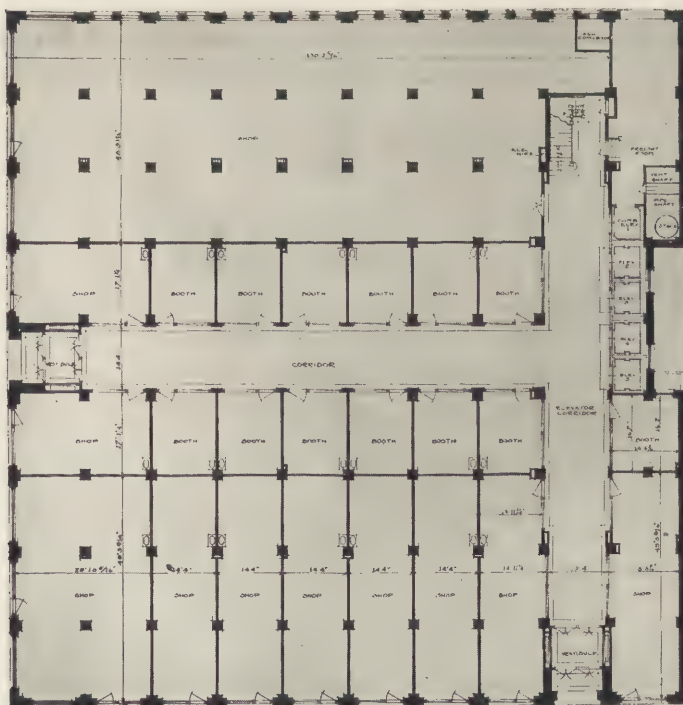
TYPICAL FLOOR PLAN—HOTEL CLARIDGE, NEW YORK.
D. H. Burnham & Co., Architects.



W. D. BOYCE BUILDING, CHICAGO, 1911, 1913.
D. H. BURNHAM & CO., ARCHITECTS.



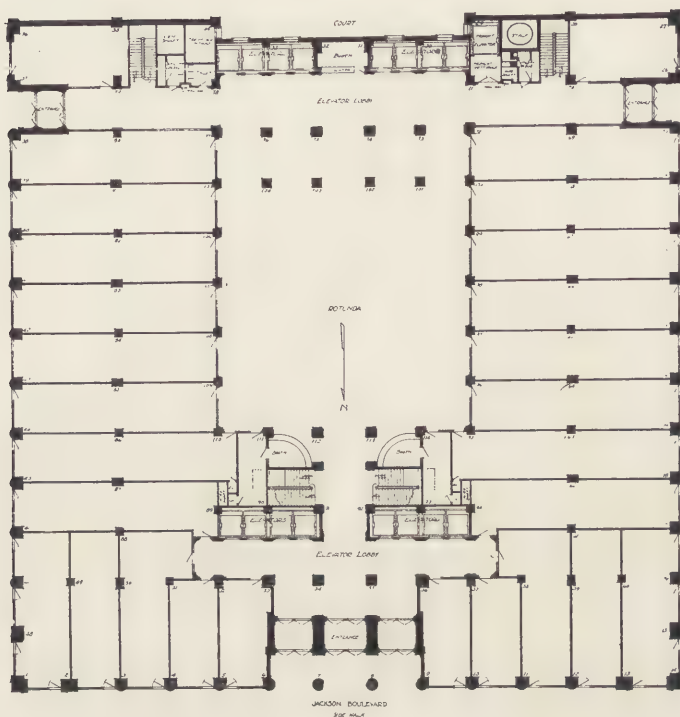
TYPICAL FLOOR—SOUTHERN BUILDING, WASHINGTON, D. C.



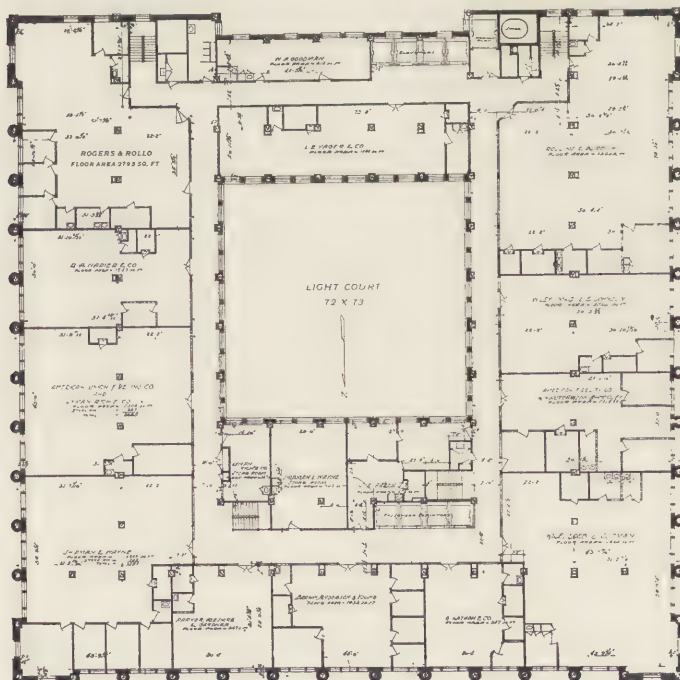
FIRST FLOOR—SOUTHERN BUILDING, WASHINGTON, D. C.



SOUTHERN BUILDING, WASHINGTON, D. C.,
1910. D. H. BURNHAM & CO., ARCHITECTS.



FIRST FLOOR—INSURANCE EXCHANGE BUILDING, CHICAGO.



TYPICAL OFFICE FLOOR—INSURANCE EXCHANGE BUILDING.



INSURANCE EXCHANGE BUILDING, CHICAGO,
1911. D. H. BURNHAM & CO., ARCHITECTS.



FIRST NATIONAL BANK BUILDING,
HUTCHINSON, KANSAS, 1911. D. H.
BURNHAM & CO., ARCHITECTS.



WALDHEIM BUILDING, KANSAS CITY, MO.,
1911. D. H. BURNHAM & CO., ARCHITECTS.



ROCK ISLAND SAVINGS BANK, ROCK ISLAND,
ILL., 1911. D. H. BURNHAM & CO., ARCHITECTS.



STORE OF WM. FILENE'S SONS CO., BOSTON,
1912, 1913. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.

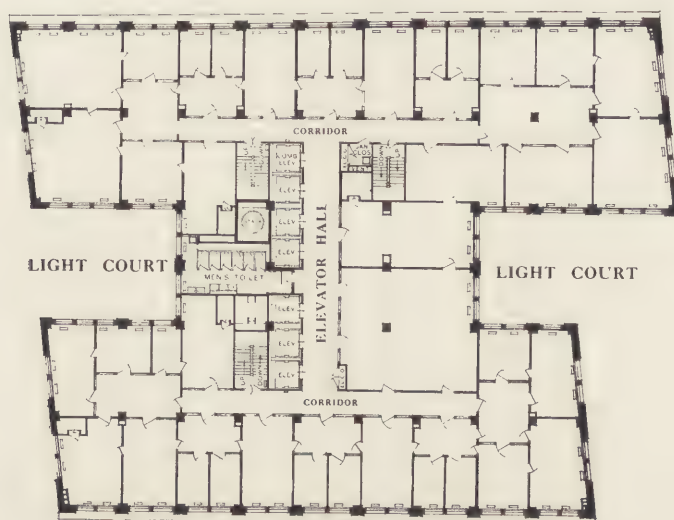


REAR VIEW—EIGHTY MAIDEN LANE,
NEW YORK, 1911, 1912. D. H.
BURNHAM & CO., ARCHITECTS.

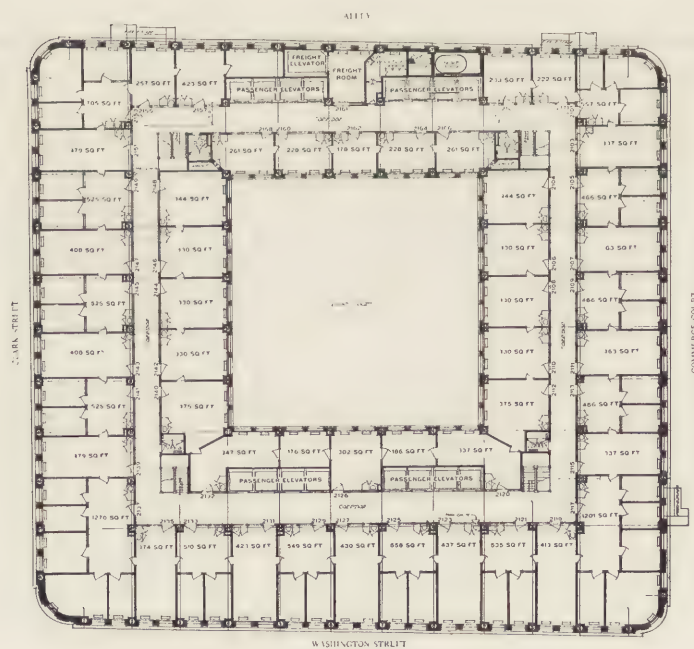


EIGHTY MAIDEN LANE, NEW YORK, 1911.
1912. D. H. BURNHAM & CO., ARCHITECTS.

CEDAR STREET



TYPICAL OFFICE FLOOR—EIGHTY MAIDEN LANE, NEW YORK.
D. H. Burnham & Co., Architects.



TYPICAL OFFICE FLOOR—CONWAY BUILDING, CHICAGO.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



CONWAY BUILDING, CHICAGO, 1912, 1914.
D. H. BURNHAM & CO. AND GRA-
HAM, BURNHAM & CO., ARCHITECTS.



ELEVATOR LOBBY—CONWAY BUILDING,
CHICAGO. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



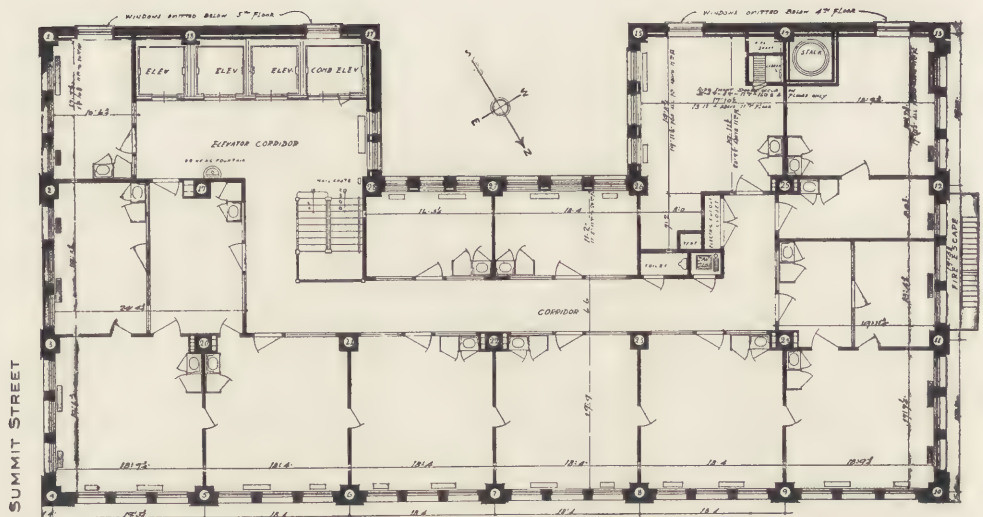
EDISON BUILDING, NEW YORK, 1912.
D. H. BURNHAM & CO., ARCHITECTS.



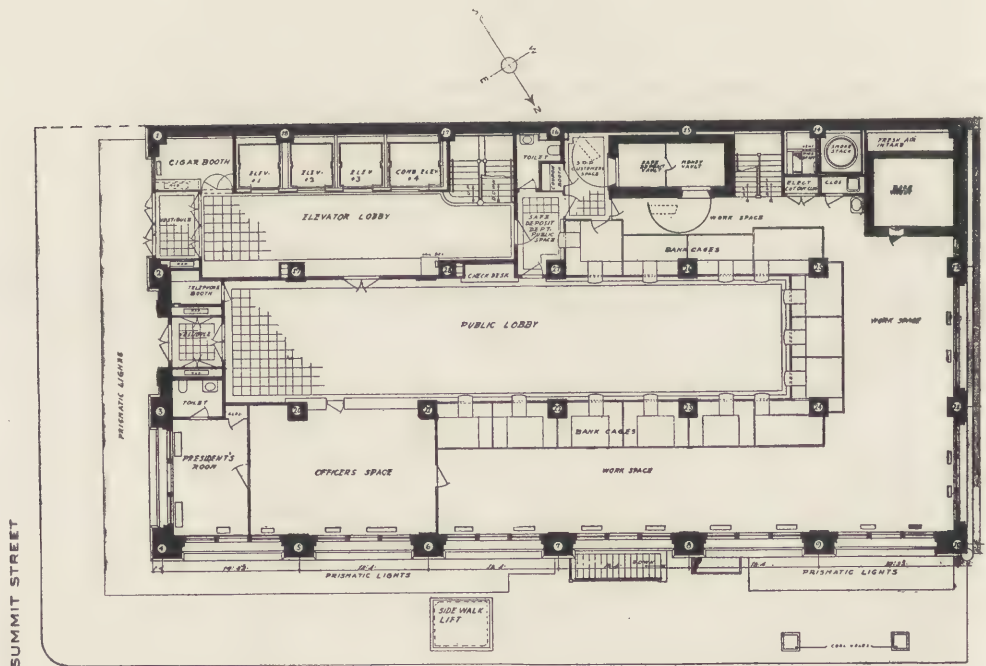
MAY DEPARTMENT STORE, CLEVELAND, OHIO,
1912. GRAHAM, BURNHAM & CO., ARCHITECTS.



STARKS BUILDING, LOUISVILLE, KY.,
1913. D. H. BURNHAM & CO., AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



TYPICAL OFFICE FLOOR—SECOND NATIONAL BANK BUILDING, TOLEDO, OHIO.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



FIRST FLOOR—SECOND NATIONAL BANK BUILDING, TOLEDO, OHIO.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



SECOND NATIONAL BANK BUILDING, TOLEDO,
OHIO, 1913. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



BUTLER BROS. WAREHOUSE, CHICAGO,
1913. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



LEHIGH VALLEY COAL COMPANY,
WILKESBARRE, PA., 1913. GRA-
HAM, BURNHAM & CO., ARCHITECTS.



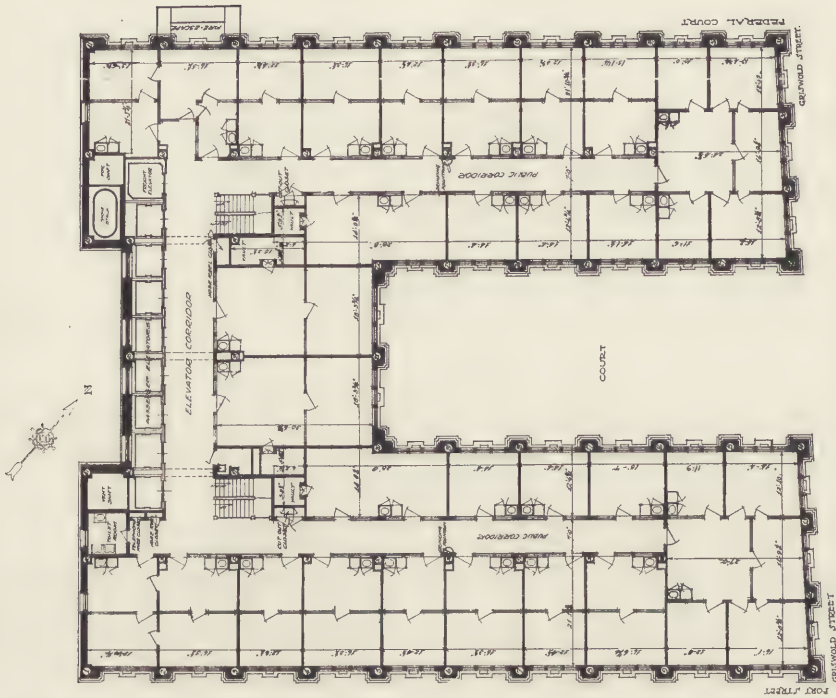
MINERS' BANK BUILDING, WILKESBARRE,
PA., 1913. D. H. BURNHAM & CO., AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



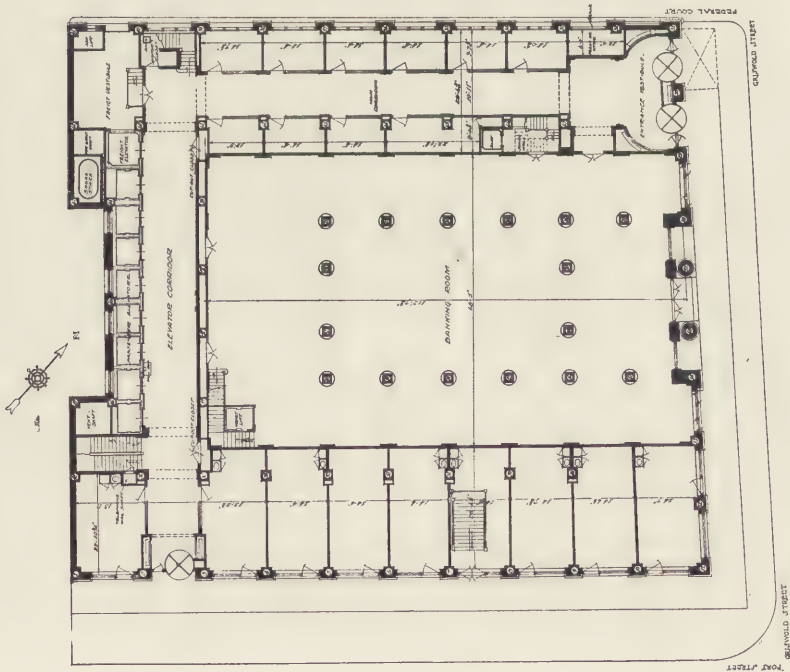
BANKING ROOM—MINERS' BANK, WILKESBARRE, PA.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



BANKING ROOM—DIME SAVINGS BANK, DETROIT.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



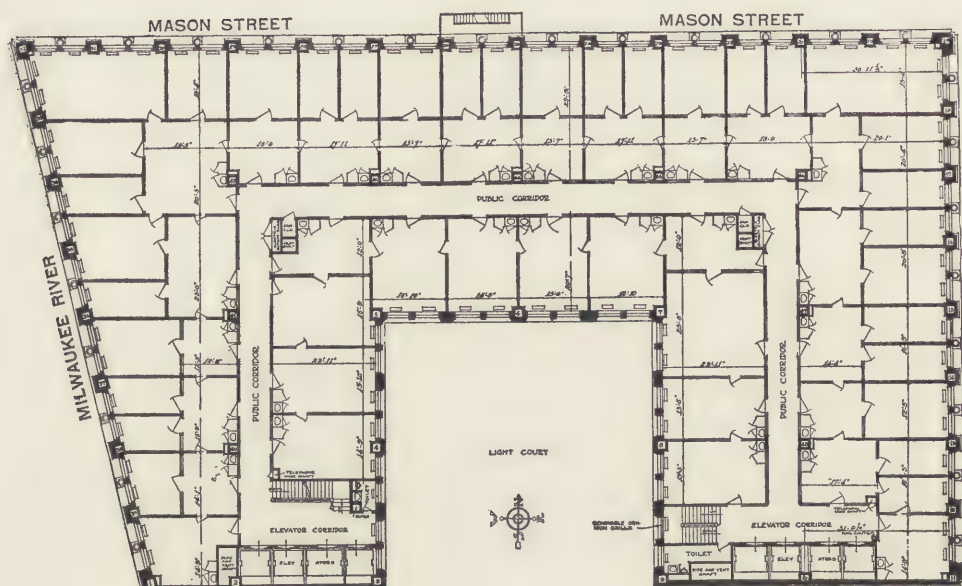
TYPICAL OFFICE FLOOR—DIME SAVINGS BANK BUILDING,
DETROIT.



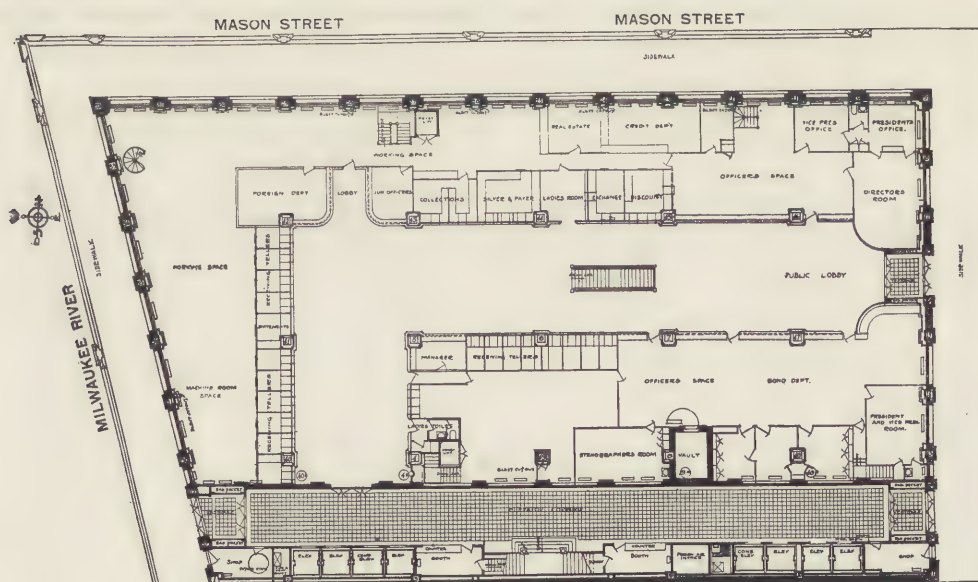
PLAN OF FIRST FLOOR—DIME SAVINGS BANK BUILDING,
DETROIT.



DIME SAVINGS BANK BUILDING, DETROIT, MICH., 1913. D. H. BURNHAM & CO., AND GRAHAM, BURNHAM & CO., ARCHITECTS.



TYPICAL OFFICE FLOOR—FIRST NATIONAL BANK BUILDING, MILWAUKEE.



PLAN OF FIRST FLOOR—FIRST NATIONAL BANK BUILDING, MILWAUKEE.



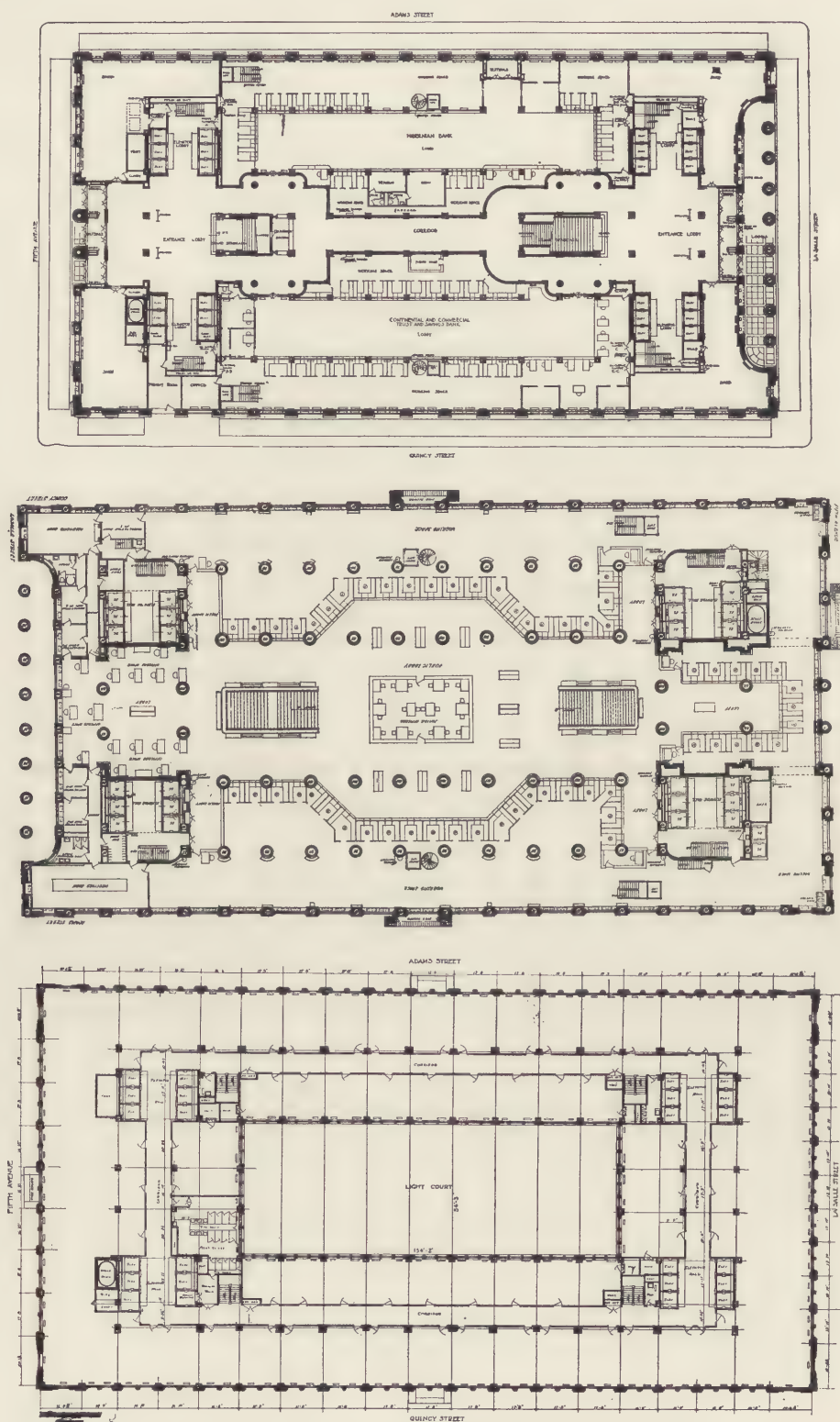
FIRST NATIONAL BANK BUILDING, MIL-
WAUKEE, 1914. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



BANKING ROOM—FIRST NATIONAL BANK, MIL-
WAUKEE. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



CENTRAL NATIONAL BANK BUILD-
ING, PEORIA, ILL., 1914. GRAHAM,
BURNHAM & CO., ARCHITECTS.



FIRST, SECOND AND ELEVENTH FLOORS—CONTINENTAL AND COMMERCIAL NATIONAL BANK BUILDING, CHICAGO.



CONTINENTAL AND COMMERCIAL NA-
TIONAL BANK BUILDING, CHICAGO,
1914. D. H. BURNHAM & CO. AND GRA-
HAM, BURNHAM & CO., ARCHITECTS.



COLONNADE—CONTINENTAL AND COMMERCIAL NATIONAL BANK BUILDING, CHICAGO. D. H. BURNHAM & CO. AND GRAHAM, BURNHAM & CO., ARCHITECTS.



DETAIL IN BANKING ROOM—CONTINENTAL
AND COMMERCIAL NATIONAL BANK BUILD-
ING, CHICAGO. D. H. BURNHAM & CO. AND
GRAHAM, BURNHAM & CO., ARCHITECTS.



VIEW TOWARDS OFFICERS' QUARTERS—CONTINENTAL AND
COMMERCIAL NATIONAL BANK, CHICAGO.



OFFICE SCREEN—CONTINENTAL AND COMMERCIAL NATIONAL
BANK, CHICAGO.



BANKING ROOM—CONTINENTAL AND
COMMERCIAL NATIONAL BANK, CHI-
CAGO. D. H. BURNHAM & CO. AND GRA-
HAM, BURNHAM & CO., ARCHITECTS.



PRESIDENT'S ROOM—CONTINENTAL AND COMMERCIAL NATIONAL BANK, CHICAGO.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



PRESIDENT'S ROOM—CONTINENTAL AND COMMERCIAL NATIONAL BANK, CHICAGO.
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



DIRECTORS' ROOM—FIRST NATIONAL BANK, PITTS-
BURGH. D. H. BURNHAM & CO., ARCHITECTS.



FIRST NATIONAL BANK, PITTSBURGH, 1908,
1912. D. H. BURNHAM & CO., ARCHITECTS.



BANKING ROOM—FIRST NATIONAL BANK, PITTS-
BURGH. D. H. BURNHAM & CO., ARCHITECTS.



DAVID WHITNEY BUILDING, DETROIT, MICH.
1915. GRAHAM, BURNHAM & CO., ARCHITECTS.



DE WOLF BUILDING, CHICAGO, 1915.
GRAHAM, BURNHAM & CO., ARCHITECTS.



TRACTION BUILDING, CINCINNATI, OHIO,
1902. D. H. BURNHAM & CO., ARCHITECTS.



UNION SAVINGS BANK AND TRUST CO. BUILDING,
CINCINNATI, OHIO, 1902, 1914. D. H. BURNHAM & CO.
AND GRAHAM, BURNHAM & CO., ARCHITECTS.



RELIANCE BUILDING, CHICAGO, 1894.
D. H. BURNHAM & CO., ARCHITECTS.



FIELD MUSEUM OF NATURAL HISTORY, CHICAGO (UNDER CONSTRUCTION).
D. H. Burnham & Co. and Graham, Burnham & Co., Architects.



FIFTH-THIRD NATIONAL BANK, CINCINNATI, OHIO, 1902.
D. H. Burnham & Co., Architects.



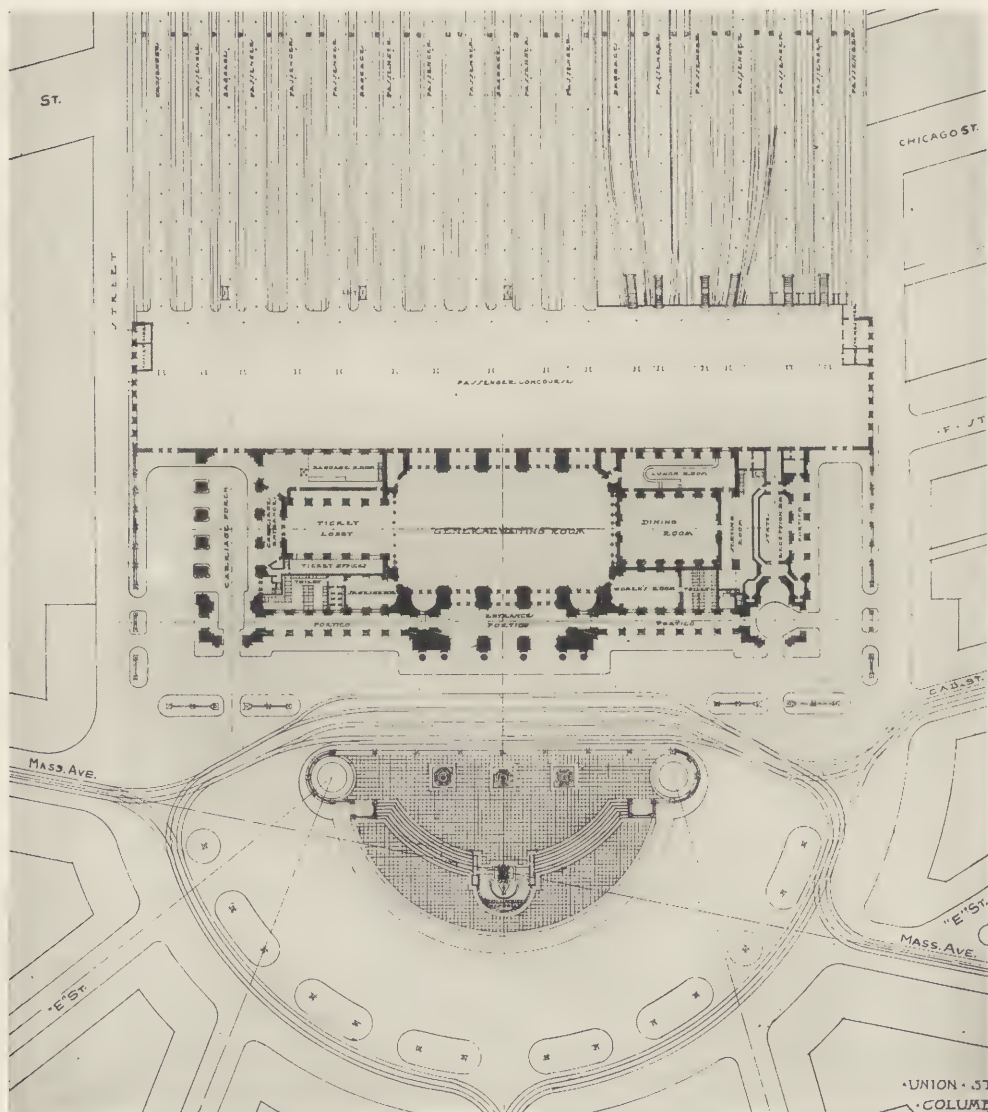
UNION STATION, COLUMBUS, OHIO, 1896.
D. H. Burnham & Co., Architects.



CENTRAL STATION, MEMPHIS, TENN., 1914.
Graham, Burnham & Co., Architects.



UNION STATION, PITTSBURGH, PA., 1902.
D. H. BURNHAM & CO., ARCHITECTS.



UNION STATION, WASHINGTON, D. C., 1904.
D. H. BURNHAM & CO., ARCHITECTS



SOUTH LOGGIA—UNION STATION, WASHINGTON, D. C. D. H. BURNHAM & CO., ARCHITECTS.



WAITING ROOM—UNION STATION, WASHINGTON, D. C.
D. H. Burnham & Co., Architects.



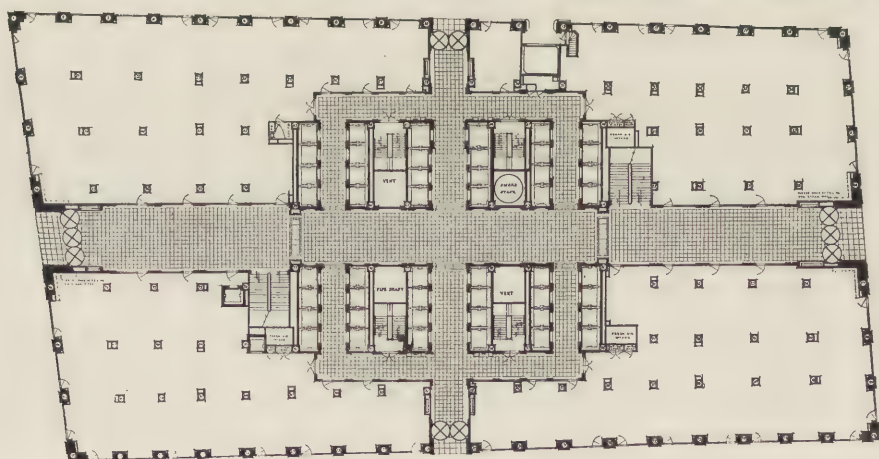
MAIN CONCOURSE—UNION STATION, WASHINGTON, D. C.
D. H. Burnham & Co., Architects.



A CORNER OF THE DINING ROOM—
UNION STATION, WASHINGTON, D. C.
D. H. BURNHAM & CO., ARCHITECTS.



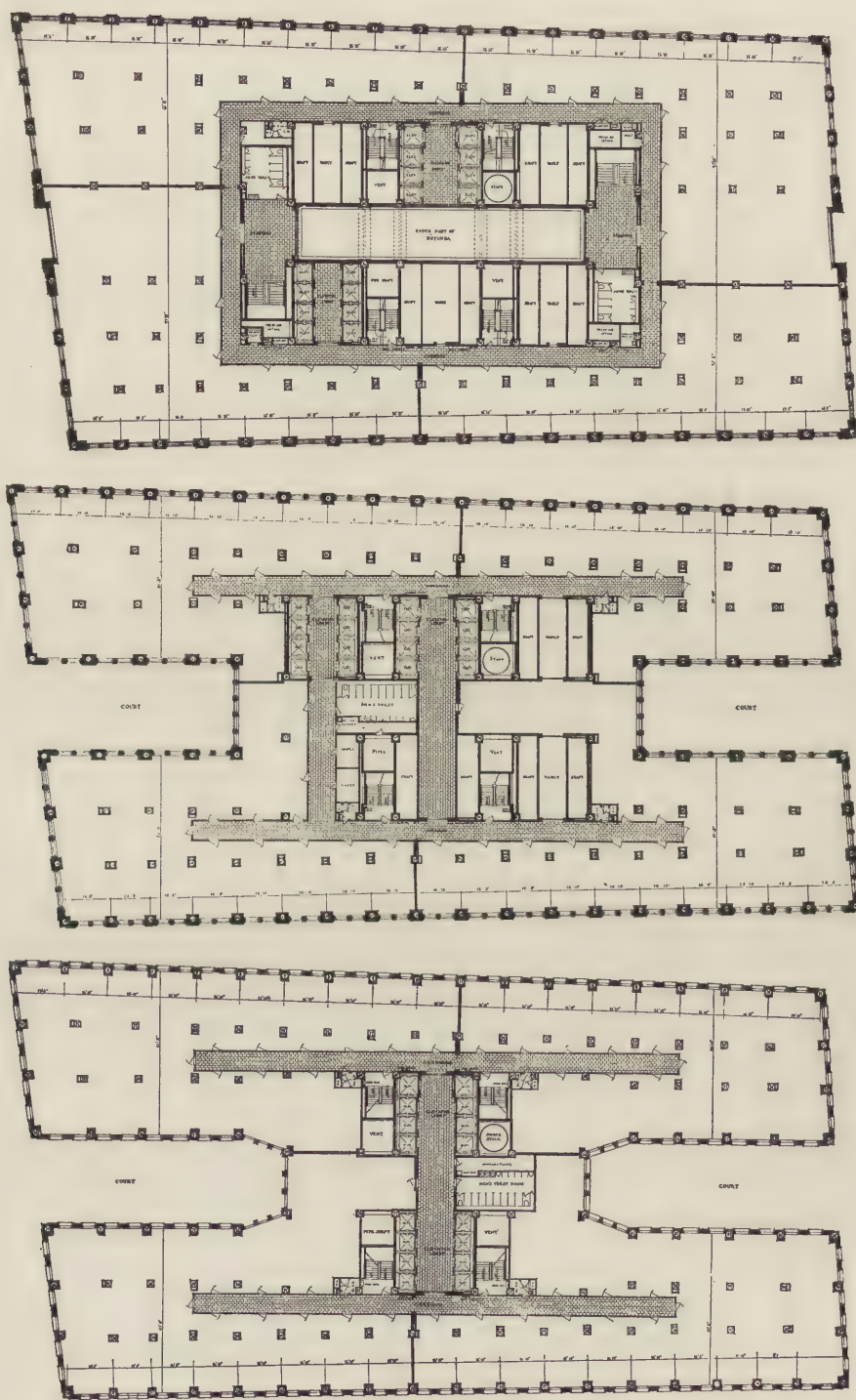
PERSPECTIVES OF THE PROPOSED
UNION STATION, CHICAGO. GRA-
HAM, BURNHAM & CO., ARCHITECTS.



REAR VIEW AND FIRST FLOOR PLAN—
EQUITABLE BUILDING, NEW YORK,
1915. ERNEST R. GRAHAM, ARCHITECT.



EQUITABLE BUILDING, NEW YORK,
1915. ERNEST R. GRAHAM, ARCHITECT.



SECOND, SEVENTH AND THIRTY-FIFTH FLOORS—EQUITABLE BUILDING, NEW YORK.
Ernest R. Graham, Architect.



GROUND FLOOR LOBBY-EQUI-
TABLE BUILDING, NEW YORK.
ERNEST R. GRAHAM, ARCHITECT.



GROUND FLOOR LOBBY—EQUIL-
TABLE BUILDING, NEW YORK.
ERNEST R. GRAHAM, ARCHITECT.



CORWITH PLANT, CRANE COMPANY, CHICAGO, TO COMPRISE NINETEEN BUILDINGS, OF WHICH EIGHTEEN HAVE BEEN ERECTED.
Graham, Burnham & Co., Architects.

of more substantial looking architecture. The effect achieved is that of a huge picture window cut up in panels and strengthened at the top, bottom and sides. This effect is further emphasized by the use of light colored stone and terra cotta for the walls of the enclosing frame, and by covering with green terra cotta the upright steel columns and floor spandrils of the enclosed portion. A huge canopy running almost the entire length of the building separates the superstructure from the large glass show window of the ground floor, creating two distinct elements of composition and giving a greater aesthetic value and detachment to the upper stories. Otherwise the appearance would be one of a heavy superstructure resting on sheets of plate glass; as it is, the clients' exacting requirement for an all-glass front at the first story is practically overcome by the introduction of this canopy. Of course, the designers if left to themselves would have preferred to make the ground floor front more solid, but they had to make the very most of the requirements imposed. The slight vertical break of the corner pavilion might just as well have been omitted as far as the unity of the design is concerned, for breaks or projections of this sort tend to disturb the tranquillity of a building which we know is structurally dependent on the uniform spacing as near as possible of its steel columns. Throughout the entire exterior treatment of the Filene Store there is a swing and movement which speaks well for the architects' decorative ability.

Another distinctive building much simpler and less pretentious is the new Butler Brothers' Warehouse, occupying an entire block adjoining Randolph Street in Chicago. The success of this massive exterior, built of brick over steel, is striking and unchallenged, and I do not know of a more expressive and enlightened work in its own kind by its author or by any other architect. It attains a very noble largeness and simplicity which is due in a measure to the structural emphasis

that makes the fronts independent of extraneous ornament. The building relies on means of support that are in this case made visible by the frank and expressive treatment of its long piers; and although the component parts of Jarvis Hunt's brilliant design for the old adjacent Butler Brothers' Warehouse are followed in a broad way, they are transmuted into an entirely new result. The machicolated cornice that is also the crowning feature of the later building is excellent in its reconciliation of practical and architectural requirements. Here are plainly enough rows of windows which enable the space they illuminate to be utilized to the utmost; and yet they most effect-



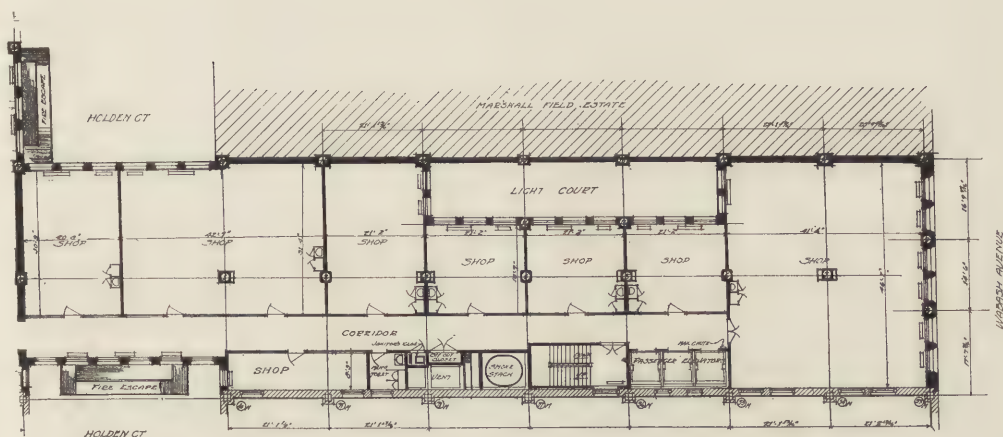
ALWORTH BUILDING, DULUTH, MINN., 1910.
D. H. Burnham & Co., Architects.



STEVENS BUILDING, CHICAGO.
Graham, Burnham & Co., Architects.

ively accentuate the massiveness and solidity of the structure itself. In a general way the entire design is handled with like consistency. True, the basement is thickened and the corners strengthened to supply the place of an assumed abutment, but the walls are thickened only to the verge of commercial practicability. It is the vertical lines of the superstructure, however, that thrill me most, for here indeed is a solution of the problem in high design that would be commercially practicable even if this were an office building instead of a warehouse! For this reason alone the architects of tall buildings seeking a modern expression of a modern condition should find the design of the new Butler Warehouse worthy of emulation for its structural quality as for its more purely architectural merit.

The Continental and Commercial National Bank and office building at Chicago may be regarded as the culmination of the important work done in the last fifteen years of the firm as D. H. Burnham & Co. It was designed in its essential features during the lifetime of Mr. Burnham and marks the last of the great works with which his fame is intimately connected. Since his decease on June 1, 1912, the building was carried to its completion by his former associates, now known as Graham, Burnham & Co. This structure is of such magnitude that a brief description of its vast proportions and size may be found of some interest to the reader. It covers an entire city square in the center of the financial district of Chicago and is the largest bank and office building in that city. It fronts on La Salle Street and Fifth Avenue on the east and west, and on Adams and Quincy Streets on the north and south. Its length from east to west is 325 feet and its width from north to south 116 feet. The main entrance is on La Salle Street through a loggia of immense polished granite columns, which envelop cores of steel, surrounded with concrete for fire-proofing in case by any event the granite might be destroyed by a conflagra-

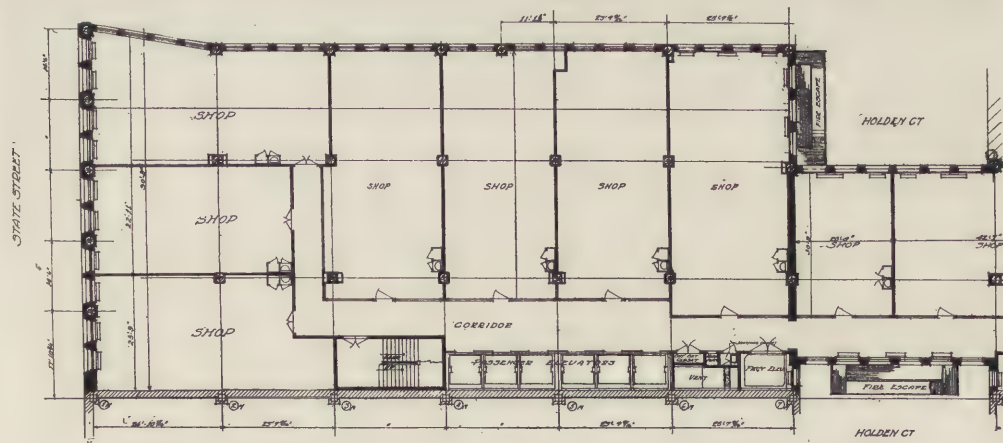


TYPICAL FLOOR, WABASH AVENUE PORTION—STEVENS BUILDING, CHICAGO.

tion. A corridor through the center on the first floor extends to Fifth Avenue, where is another principal entrance. The main banking room occupies the entire second floor and is approached by two marble staircases in the center of this corridor, near each entrance. In some parts the banking room occupies the space of four stories in height above the ground floor. The rented office section is reached by four stacks of elevators and stairways, which penetrate through the banking room near the four corners of the building. Part of the ground floor is occupied on the Adams Street side by the Hibernian Banking Association, and on the Quincy Street side by the Continental and Commercial Trust and Savings Bank, both of which are sub-

subsidiaries of the main institution. The remaining parts of this floor are rented to tenants engaged in financial business. The Safe Deposit Department occupies the east end of the basement and is accessible from La Salle Street and from the corridor.

For want of space, complete ground plans of this remarkable structure cannot be shown, but attention may be called to the very interesting fact that the barrel vaulted skylight which illuminates the main banking room in the center is built under the great interior court. A view of the exterior from the southeast taken from the top of a building a block away makes an admirable reproduction, showing the monumental grandeur of the huge pile seen as a whole without



TYPICAL FLOOR—STATE STREET PORTION—STEVENS BUILDING, CHICAGO.

distortion of its perspective lines. The exterior of the first three stories is of granite. Above this it is faced with enameled terra cotta of granite color. In this view only three of the granite columns, which form the loggia on the La Salle Street front, can be seen over the roof of the Illinois Trust and Savings Bank, a low building previously described. On the right is an excellent view of part of the well-known "Rookery," office building, designed by Burnham & Root in 1885, which shows the excellent brick work on that building. The upper part of the Continental and Commercial National Bank Building, built to the highest point ever authorized by law in Chicago, can be seen from a great distance, even over the tops of other "skyscrapers," and is an important landmark in the city. It was completed for occupancy at the beginning of the present year. Its exterior design was a matter of serious study by the architects. In this it will be seen how they have accentuated the vertical lines of the shafts of the build-

ing contrary to the old method of introducing horizontal lines and masses, or of treating the shaft as a uniform decorative surface no matter of how many stories it might happen to consist.

Therefore, it is especially exemplary to architects of tall buildings who do not feel safe in transcending the historical styles or who desire to make the detail as academically pure as may be of buildings for the composition of which there are no historical precedents.

Meanwhile, the designers who undertake to reconcile so far as may be the old artistic requirements with a construction that is uniform and virtually equivalent from the ground to the skyline, are entitled to be judged by their success in their own aim. The work of Burnham, consequently, with all its uniform propriety and distinction of appearance, presents a better technical ideal and practice than does the work of the majority of his contemporaries or predecessors.



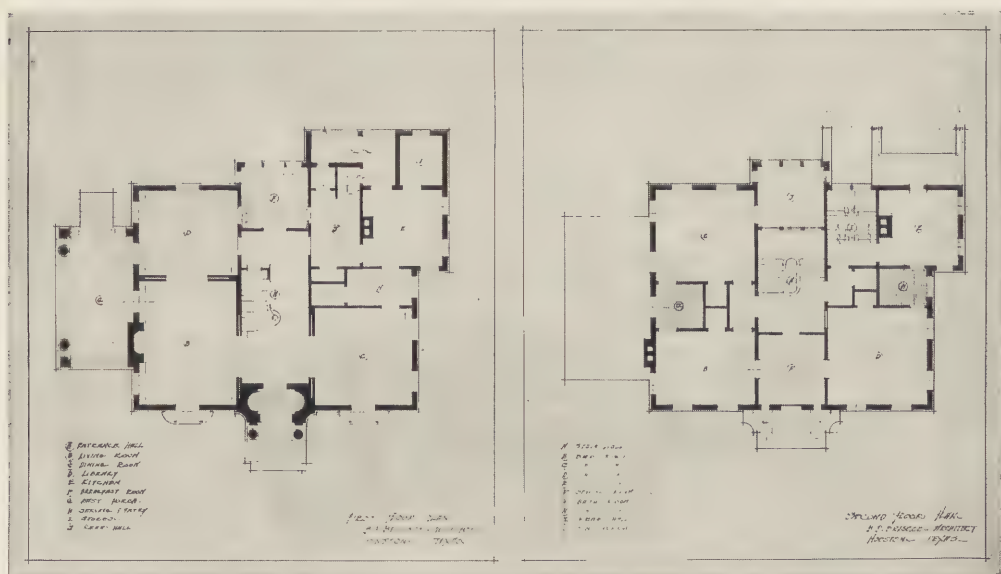
THE GRAVE OF D. H. BURNHAM ON AN ISLAND IN GRACELAND CEMETERY, CHICAGO, IS MARKED BY A GRANITE BOULDER AT THE FOOT OF THE LARGE TREE IN THE CENTER OF THIS PICTURE.

PORTFOLIO OF CURRENT ARCHITECTURE



ROSE





RESIDENCE OF J. W. GARROW, ESQ., HOUSTON, TEXAS. B. P. BRISCOE, ARCHITECT.



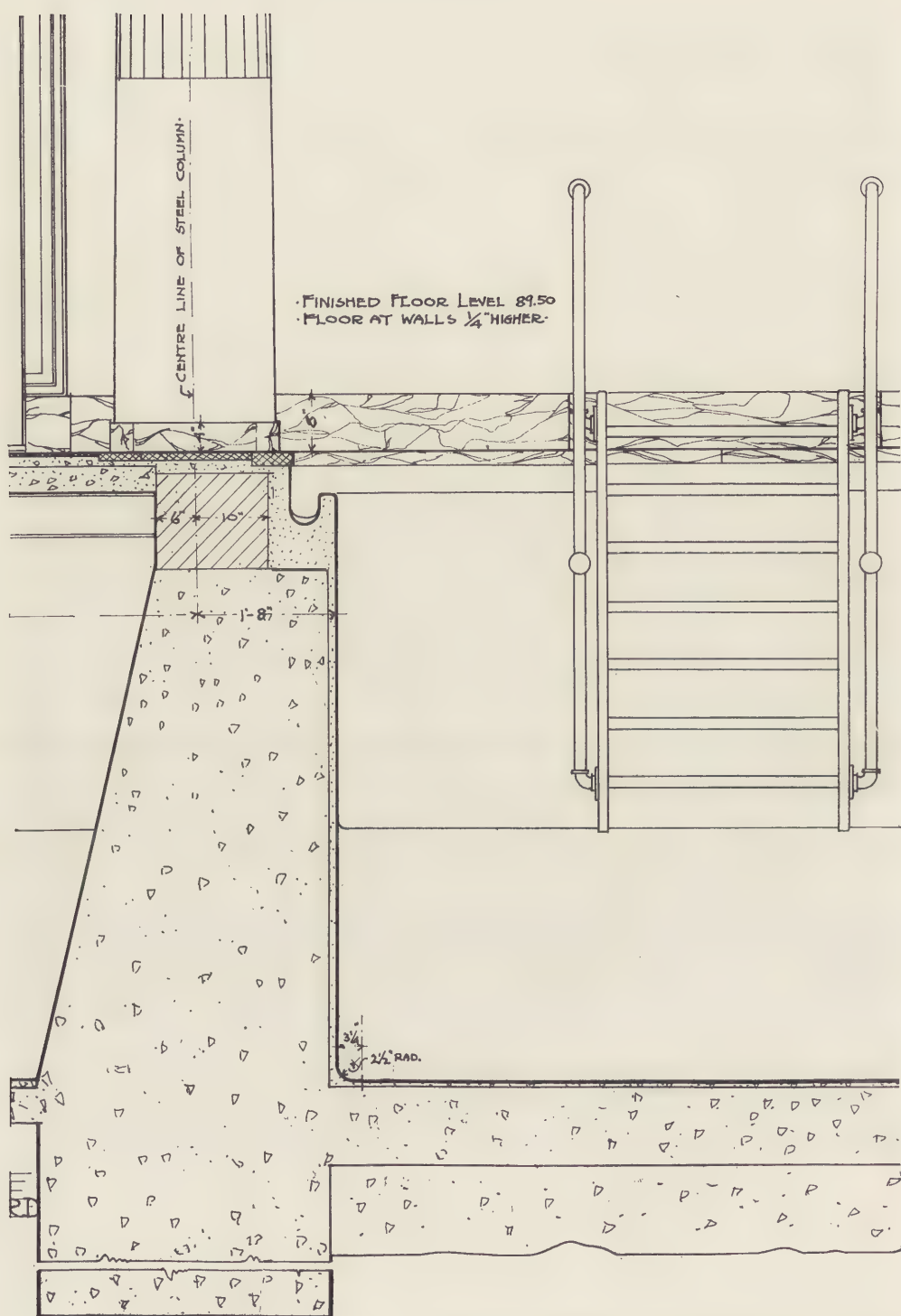
SWIMMING POOL BUILDING FOR MISS HELEN
MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOEFER, ARCHITECTS.



INTERIOR—SWIMMING POOL BUILDING FOR MISS
HELEN MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOEFER, ARCHITECTS.

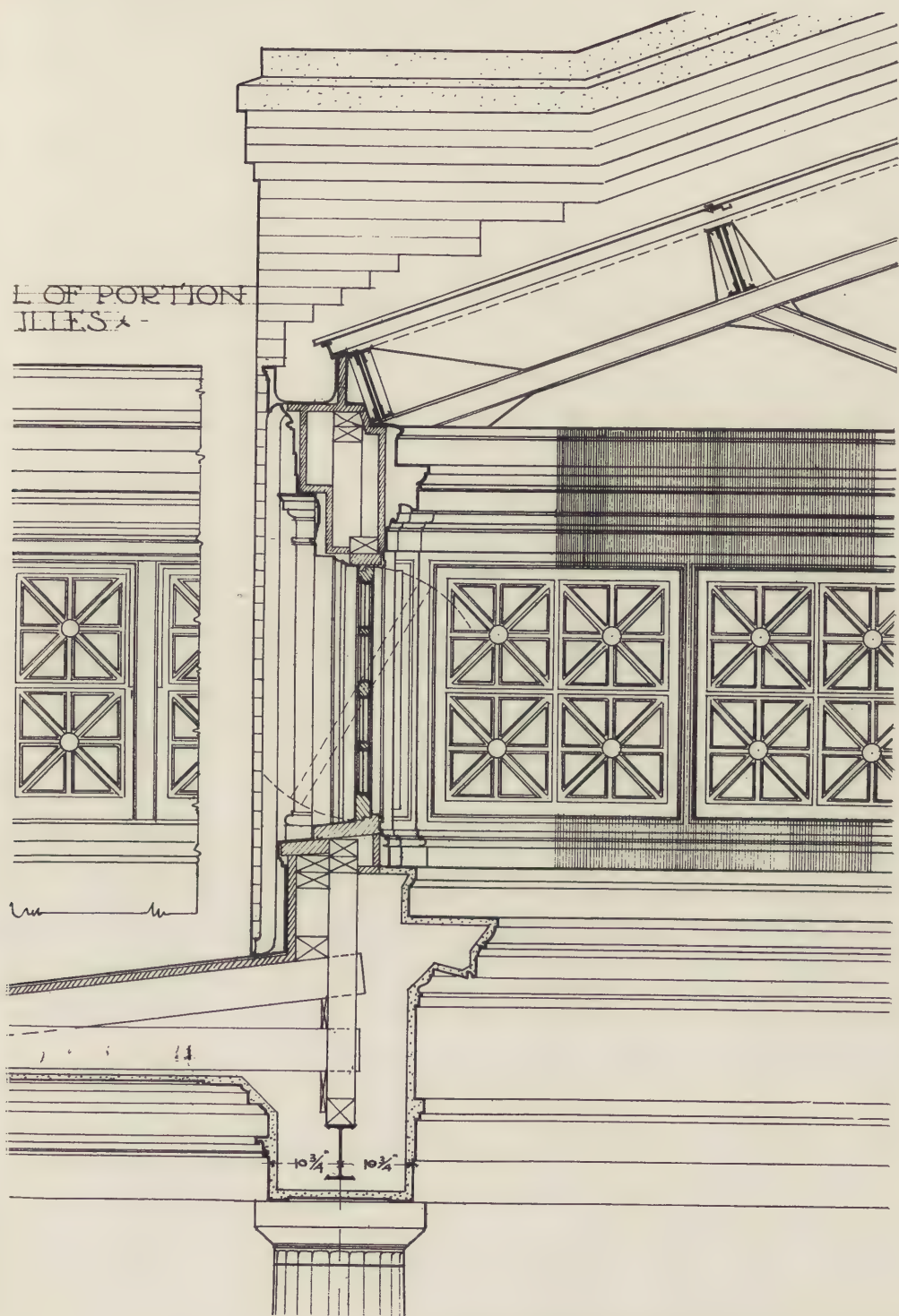


INTERIOR—SWIMMING POOL BUILDING FOR MISS
HELEN MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOFER, ARCHITECTS.

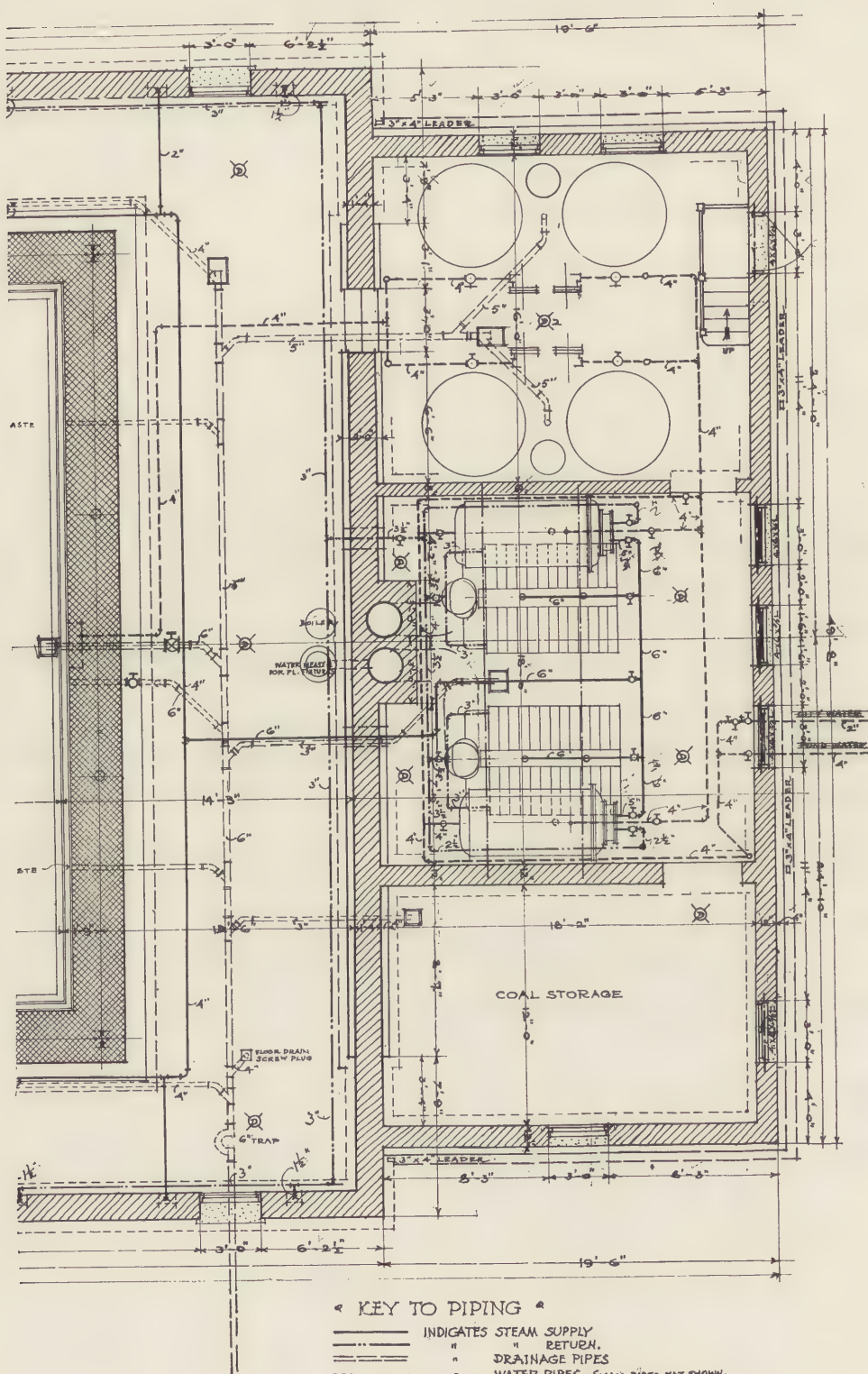


DETAIL—SWIMMING POOL BUILDING FOR MISS
HELEN MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOEFER, ARCHITECTS.

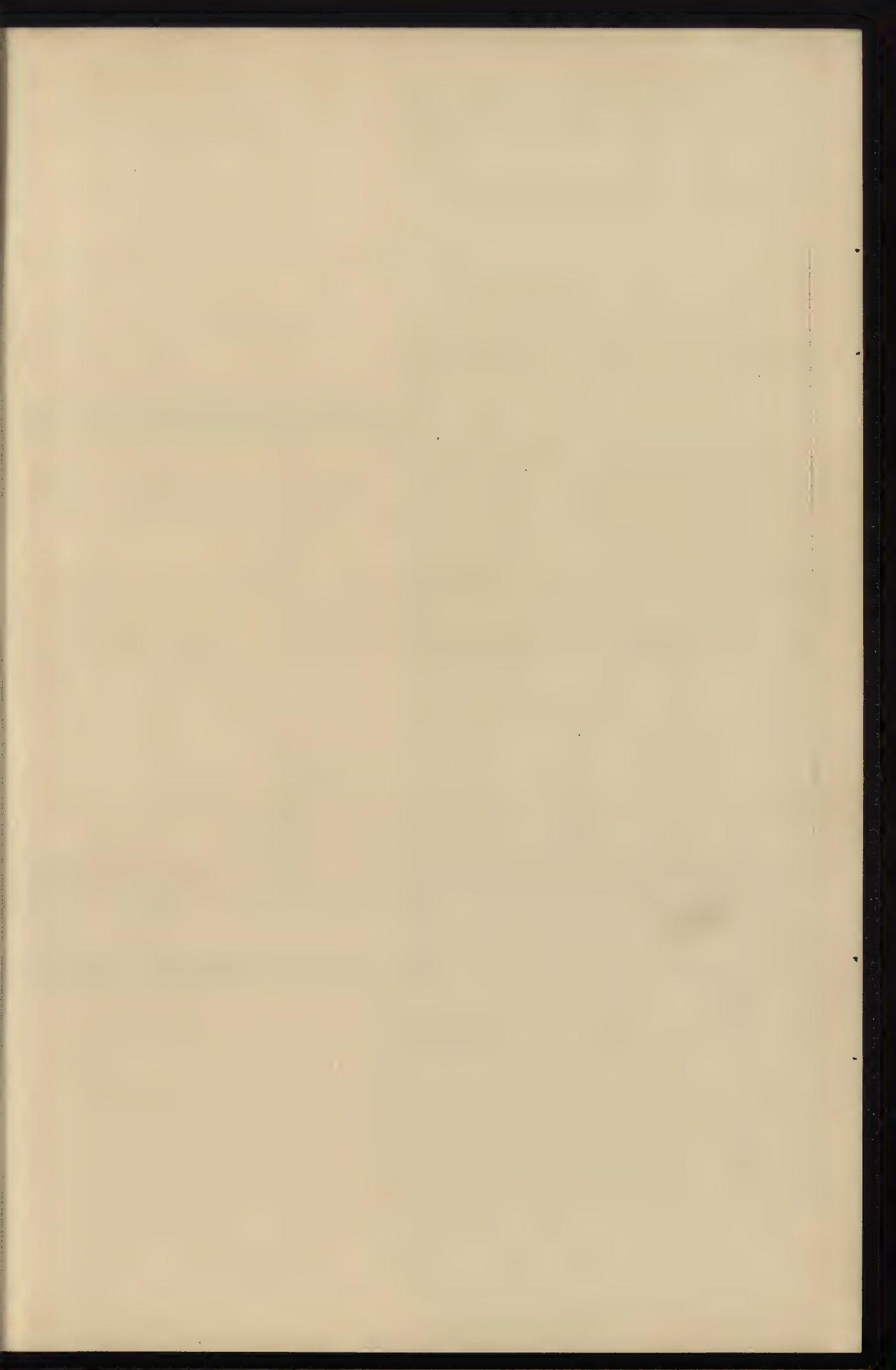
E. OF PORTION
JLIES *



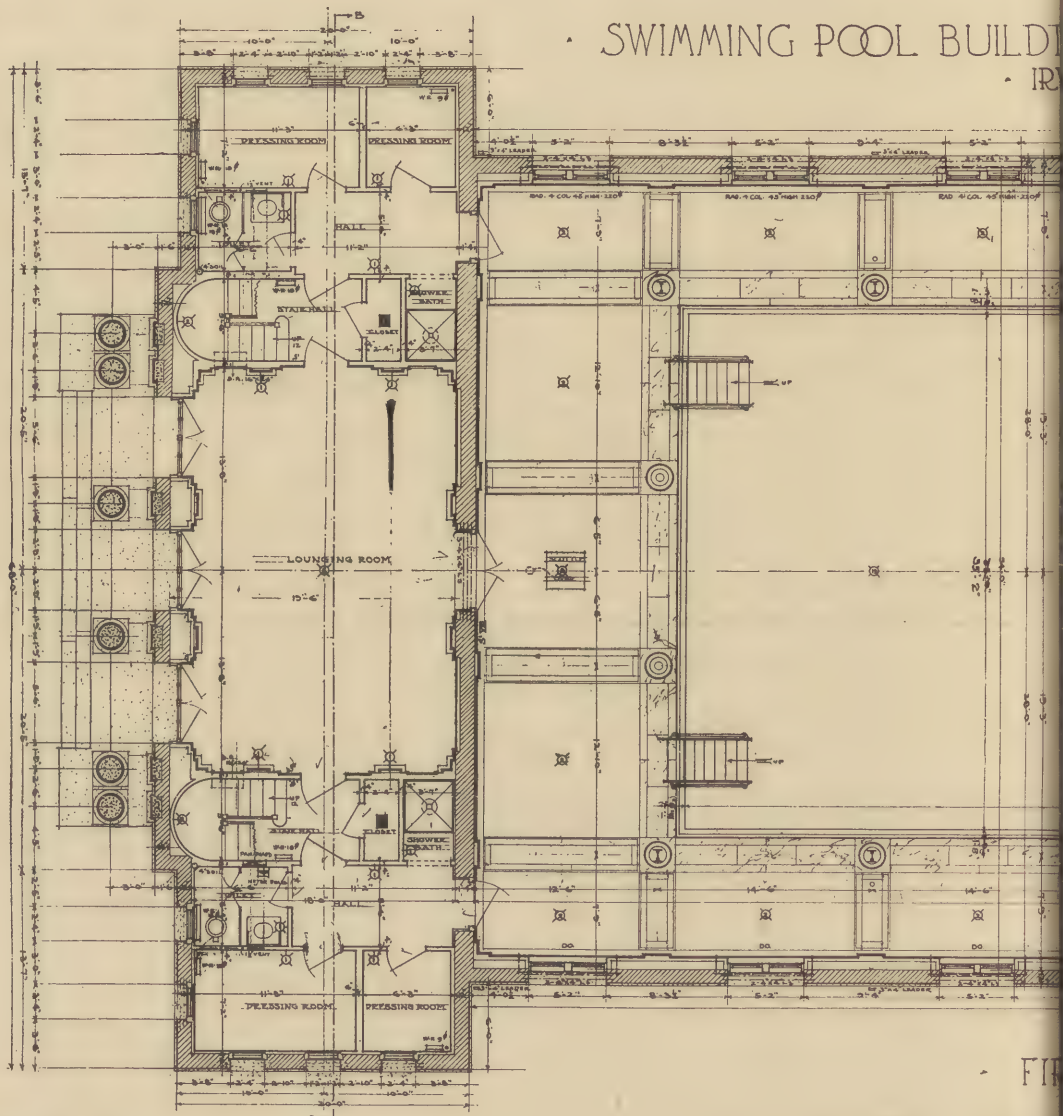
DETAIL—SWIMMING POOL BUILDING FOR MISS
HELEN MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOEFER, ARCHITECTS.



DETAIL—SWIMMING POOL BUILDING FOR MISS
HELEN MILLER GOULD, IRVINGTON, N. Y. CROW,
LEWIS & WICKENHOEFER, ARCHITECTS.



SWIMMING POOL BUILDING

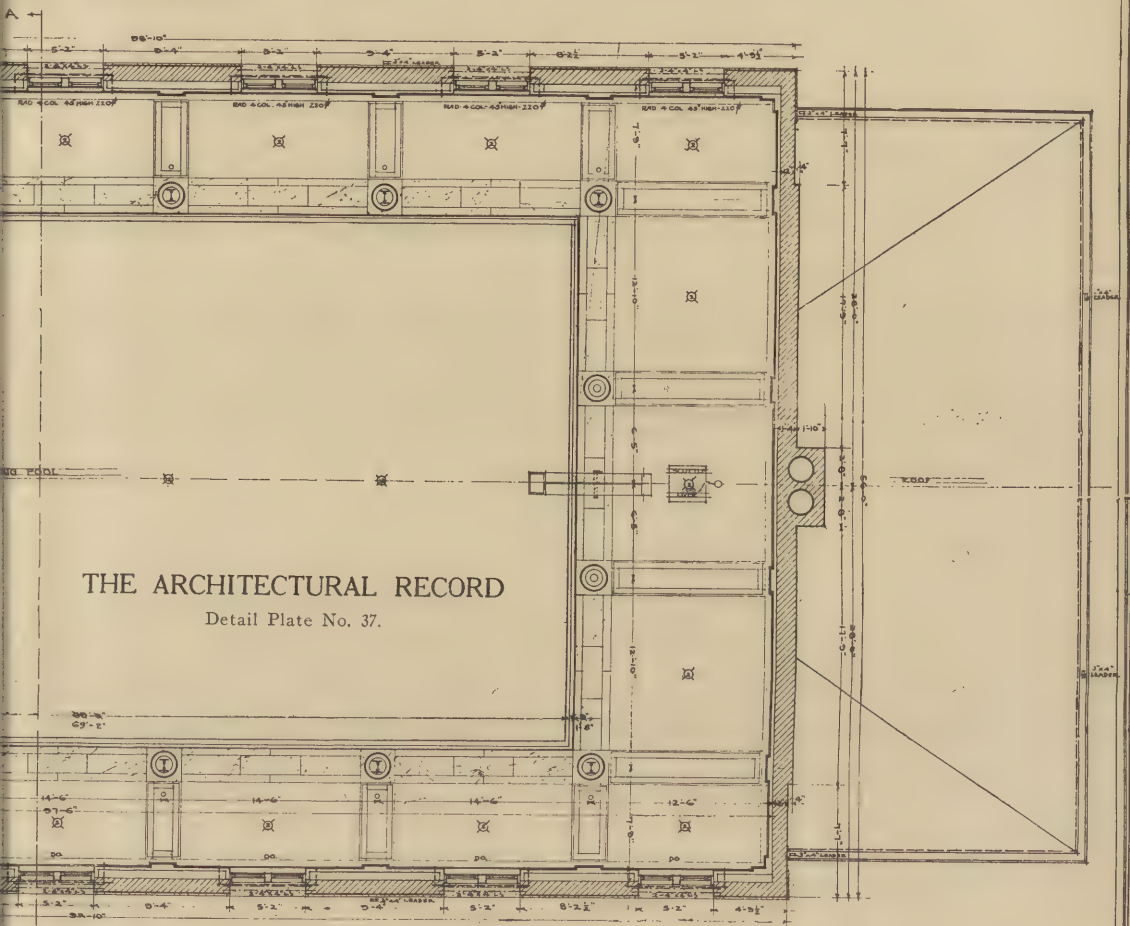


KEY

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CROW, LEWIS & WICKENHOFER

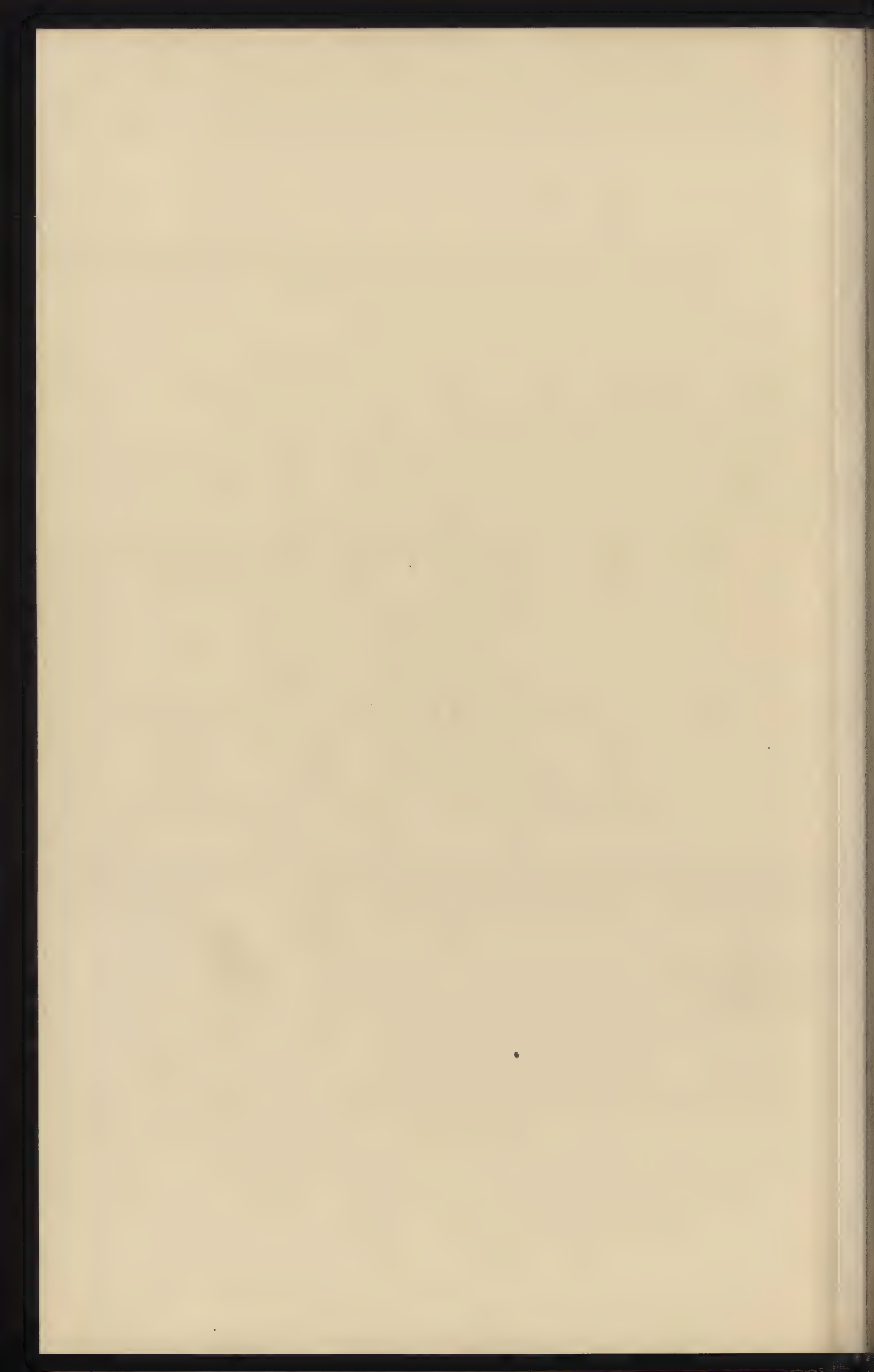
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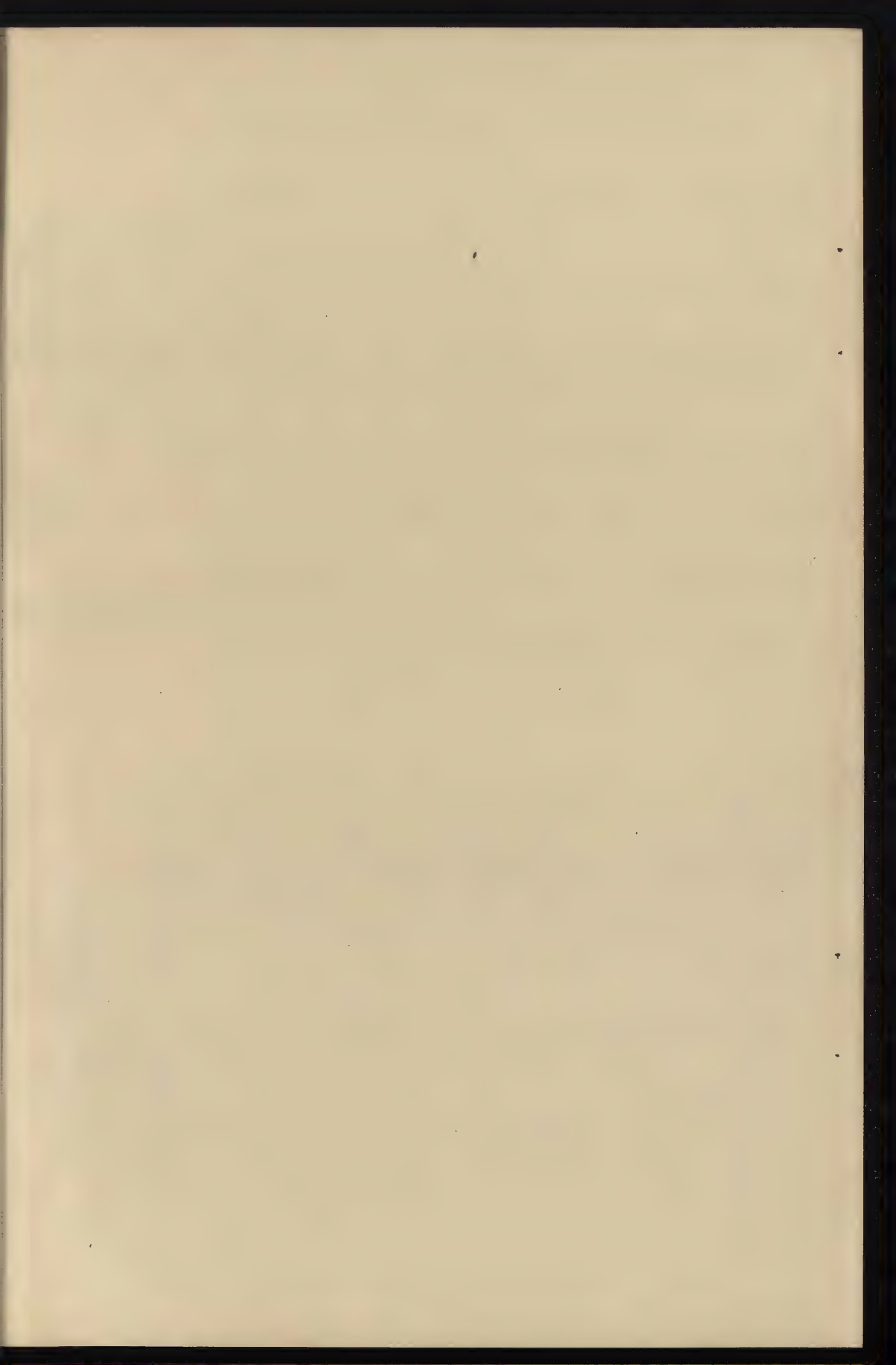


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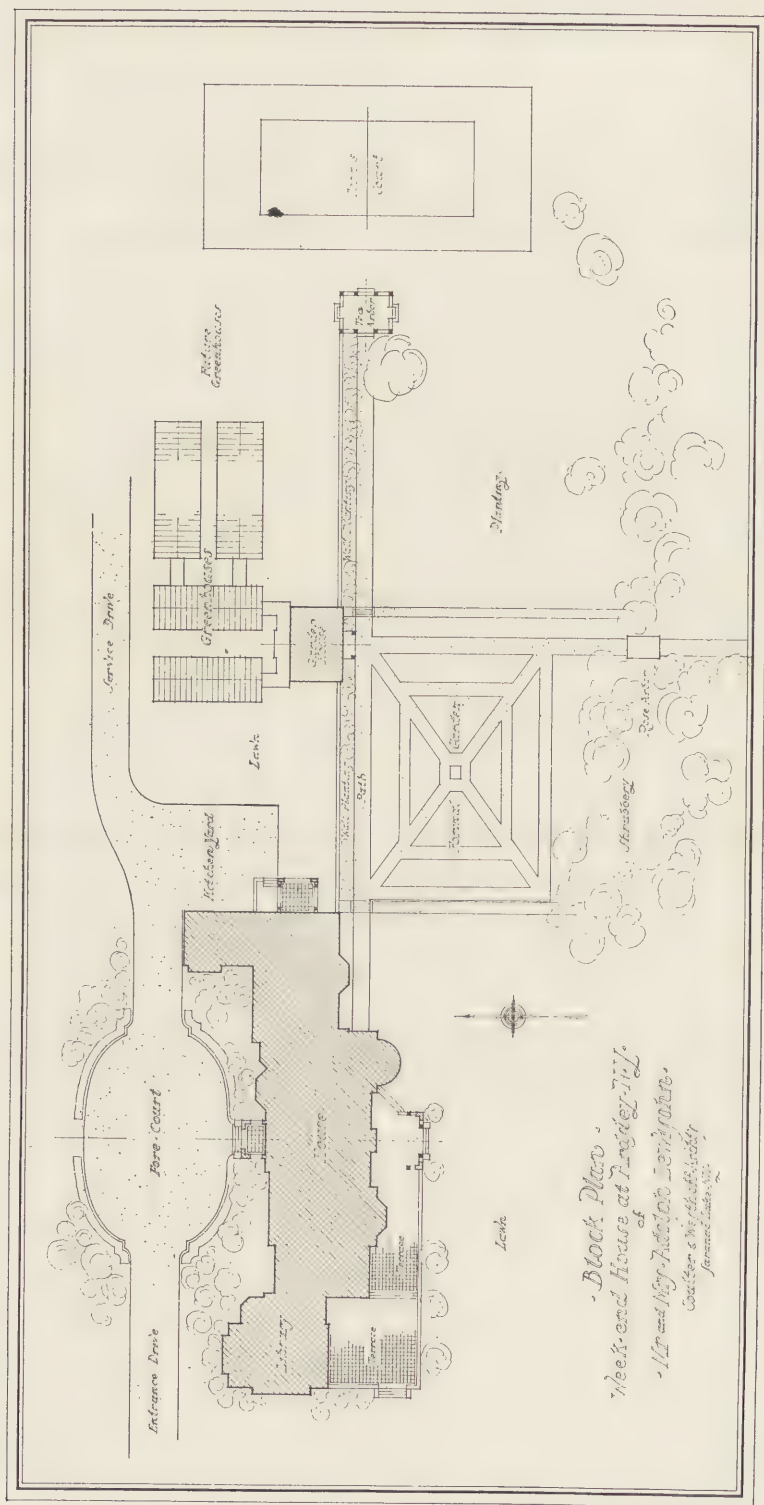




*Week-end House
at Ardsley, N.Y.
of
Adolph Lewisohn, Esq*

*Coulter & Westhoff
Architects*



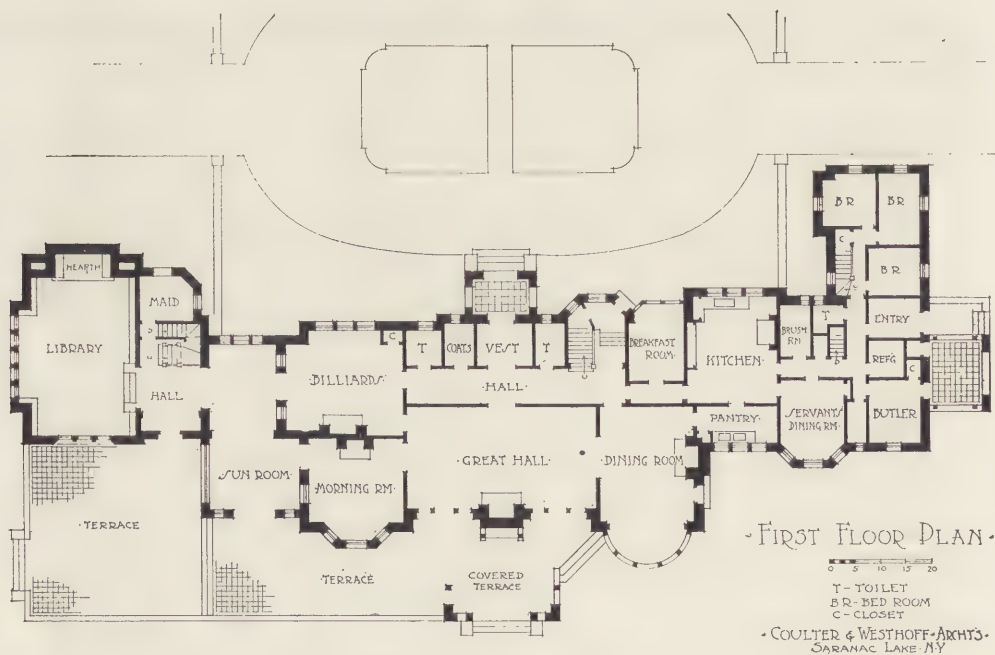




VIEW FROM NORTHWEST—WEEK-END HOUSE
OF ADOLPH LEWISOHN, ESQ., ARDSLEY, N. Y.
COULTER & WESTHOFF, ARCHITECTS.



GENERAL VIEW—WEEK-END HOUSE OF ADOLPH LEWISOHN, ESQ., ARDSLEY, N. Y.
Coulter & Westhoff, Architects.



PLAN OF FIRST FLOOR—WEEK-END HOUSE OF ADOLPH LEWISOHN, ESQ., ARDSLEY, N. Y.
Coulter & Westhoff, Architects.



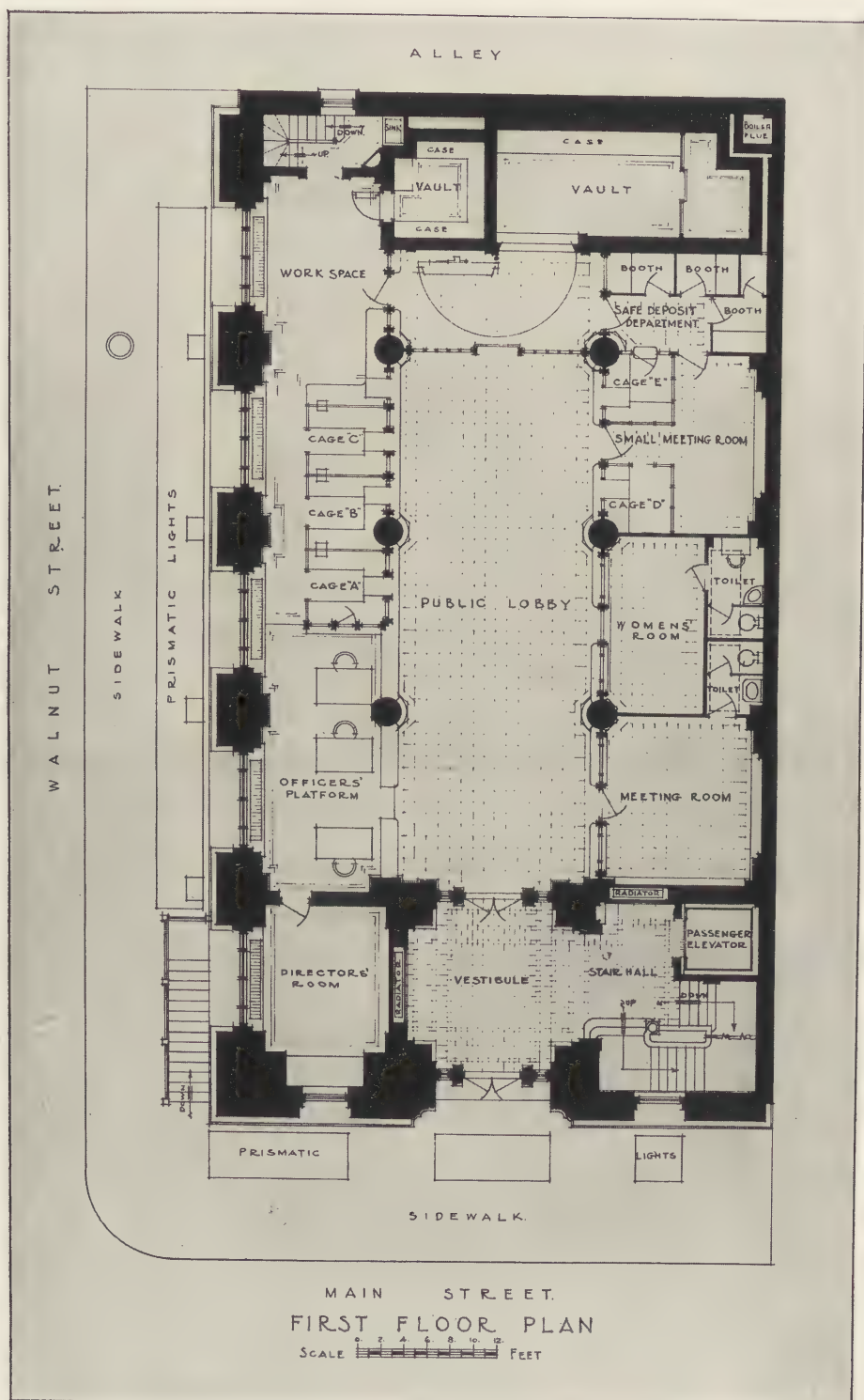
VIEW FROM FORMAL GARDEN—
WEEK-END HOUSE OF ADOLPH
LEWISOHN, ESQ., ARDSLEY, N. Y.
COULTER & WESTHOFF, ARCHITECTS.



VIEW FROM WALK LEADING TO TENNIS
COURT—WEEK-END HOUSE OF ADOLPH
LEWISOHN, ESQ., ARDSLEY, N. Y.
COULTER & WESTHOFF, ARCHITECTS.



SUN ROOM—WEEK-END HOUSE OF ADOLPH LEWISOHN, ESQ., ARDSLEY, N. Y. COULTER & WESTHOFF, ARCHITECTS.



FIRST NATIONAL BANK, CHAMPAIGN,
ILL. MUNDIE & JENSEN, ARCHITECTS.



FIRST NATIONAL BANK, CHAMPAIGN,
ILL. MUNDIE & JENSEN, ARCHITECTS.



FIRST NATIONAL BANK, CHAMPAIGN,
ILL. MUNDIE & JENSEN, ARCHITECTS.



OF SPANISH AND MEXICAN THEMES

By BERTRAM G. GOODHUE

THIS remarkably written, remarkably illustrated, and remarkably printed volume* is, it seems, the Hispanic Society's eighty-seventh publication. One wonders if the others of the series are at all comparable with this last. If they are, then the Hispanic Society has issued a series of books of which it may well be proud and that must be a quite invaluable collection to the bibliophile or architect.

The published price of this book is \$5. It is, however, difficult to see how it can be sold for so slight a sum as this; for the cost of the paper, press work and reproductions alone must certainly have far exceeded any such amount.

The frontispiece is a capital reproduction, in color-and-gold, of Mr. Byne's masterly measured drawing of the central motif of the *reja* (the Spanish word for a screen of the type illustrated) in the Royal Chapel at Granada. It is a pleasure to find a colored reproduction so beautifully executed. The "justification" is, apparently, perfect, and nothing of a similar sort in any foreign publication comes to one's mind that is any

better, and but few that are as good. Mr. Byne's lettered description on this drawing is as good as the drawing itself. Architects, indeed, would seem to be the only ones who are today carrying on the lighted torch of the fine traditions of lettering.

The *reja* is a typically Spanish product. While those here illustrated, being practically all of the Renaissance period, show their derivation, in many cases, from Italian sources, in every case there is no exhibition of slavish copying, and the Spanish artists and iron-workers manifestly maintained their proud and self-contained national characteristics and national style of workmanship, even when their work is most Italianate to the casual observer. Being so good, it is a pity—and this is the book's one defect—that the authors did not make it cover a longer period in order to show some of the earlier Gothic and even Romanesque screens, of which there are still a great number in Spain.

To be sure, there are one or two such here, as, for instance, the details of those in Pamplona and Barcelona Cathedrals, given only to exhibit the parentage, so to speak, of the Renaissance masterpieces that are the book's proper subject.

Of course, most of the illustrations

*Rejería of the Spanish Renaissance. A Collection of Photographs and Measured Drawings with Descriptive Text. By Arthur Byne and Mildred Stapley. New York: The Hispanic Society of America, \$5.

are from photographs, but these have been so carefully taken and are at such a scale as to be almost as valuable to the student as drawings. There is also a great number of Mr. Byne's carefully measured drawings and these have nothing at all to fear by comparison with Prentice's or Anderson's similar work.

The letter-press is as good as the rest. It is technical where necessary, but never so technical as to make it dry reading. Evidently the author has not only carefully studied the subject on the spot, but is, as well, thoroughly versed in the Spanish language, and so has been able to relate little bits of history, even charming little anecdotes that always illuminate instead of befogging the issue.

All in all, among the unending flood of architectural books this stands out conspicuously as one of the very best ever issued in America, and the fact that it is number eighty-seven of the publications of the Hispanic Society gives promise that it only marks the beginning of a series of beautiful, admirable and useful volumes on similar objects.

It is strange that Mexico has had so few serious volumes given over to its manifold charms; for author after author has pointed out in magazine articles or books of short stories that Mexico is one of the most picturesque countries on earth, a dictum with which the present reviewer, after visiting a great part of the habitable globe, is in hearty accord. And what is true of books for the ordinary reader is vastly truer of technical books. Indeed, before the appearance of Messrs. La Beaume and Papin's book* there existed but one such dealing with Spanish Colonial architecture in Mexico, a work in ten volumes, or, rather, to be exact one volume of text and nine portfolios of photographs, which is given over almost wholly to the more monumental and important of Mexican buildings.

So to find within a single cover so many excellent half tone reproductions of Mexican buildings, by no means all of

them monumentally important (and thus of more value to the architect practicing here in the United States) is doubly welcome.

The preface by Mr. La Beaume is as excellent an introduction to the subject as one could wish. It is not altogether architectural in character; indeed I am not sure that Mr. La Beaume is himself an architect; but he certainly is a writer of very distinct descriptive power and succeeds in characterizing the capital city in one paragraph as perfectly as even such a Paseoflâneur as I could ask.

Every feature, every thing that goes to make Mexican architecture what it is, is touched lightly but with perfect precision. The adjectives are the inevitable ones in every case and Mr. La Beaume has succeeded in the short space of three and one-half pages in producing a literary epitome of Mexico that could not be bettered.

The illustrations, though adequate and artistic, are less good and are evidently enlargements from much smaller photographs. The originals having in all probability been taken with a tripodless hand-camera are, every now and then, unpleasantly distorted. Also the titling seems unnecessarily careless, both in the spelling of Spanish words and in some cases even as to the actual name of the building.

The bad Spanish can probably be laid at the door of the proofreader, who should have been informed that the "Third Order" is, in Spanish, written "Tercer Orden" and that "Parish Church" is "Parroquia," not "Parrochia."

Everyone who has snapped his camera extensively in foreign lands knows the difficulty of naming his pictures when he gets back, and so must sympathize with the maker of the pictures here reproduced; but it does seem a pity that plate 19 should be entitled, the Church of "La Santísima Trinidad," while plate 21, obviously another view of the same building, is called "Sta. Teresa la Antigua," the latter being correct. On plate 20, the actual "La Santísima Trinidad," one of the most interesting churches in the whole city of Mexico, is called "Sta. Teresa la Antigua." Plate 23, another view of the tower of "La Santísima Trin-

*The Picturesque Architecture of Mexico. By Louis La Beaume and William Booth Papin. New York: The Architectural Book Publishing Co., \$12.

idad," is called that of "La Concepcion." Plate 26, a small and rather uninteresting octagonal domed structure, is entitled merely "Baptistery" though without saying where.

In many places appear merely such words as "Campanile" or "Portal" without any further definition either as to location or name. Plate 32 is entitled "Tiled House"—which is correct so far as it goes, though it certainly should have read the "Casa de Azulejos," a building that was—when I was last in Mexico—occupied by the then flourishing, Jockey Club,—though Heaven only knows to what base uses it may have come under the present sorrowful regime—or lack of regime. But, after all, these are but details of the most trifling sort. The North American architect does not care much for the names of foreign buildings. All he cares about is their beauty—and beauty is the abounding quality not only of Mexico itself but of the pictures in this book.

Thick as the book is—it contains some 118 plates—it only touches lightly and at only four or five points, the absolutely inexhaustible treasure house of Mexico. But light as the touch is the authors have chosen their subjects extremely well. Many, even of the least important buildings, are among the loveliest in the land. I well remember the almost shocked delight with which I came first upon the Church of San Francisco in Pueblo, a building which, both in material and style, is markedly unusual in Mexico and even more markedly excellent. It is pleasant to find several charming pictures of it here.

At the present moment in Southern California and the Southwest generally—even in other parts of the United States less appropriately adapted to its use—there is a visible effort to build buildings in the style that obtained throughout old Mexico. It is true this movement has resulted in many mistaken efforts and even in the mistaken name of "Mission," a state of affairs this book should do much to set right. "Mission" is no more than the crude efforts of the early fathers, most of whom came from Spain via Mexico, to reproduce the well-remembered glories of the shrines they

had left behind. In this their only aids were the Indians, with their still cruder handicraft, besides which they were everywhere cruelly hampered by lack of funds. The Mission style at its best means Spanish Colonial, just as Spanish Colonial at its best almost means Spanish; and that the old Mexican architects lagged but little, if at all, behind their brothers of Spain itself, this volume goes far to prove.

GRINLING GIBBONS.

THE complete life story of England's master craftsman has at last been told. In *Grinling Gibbons and the Woodwork of His Age, 1648-1720* (London, Country Life Press, and New York, Charles Schibner's Sons; folio, pp. xi-259, 233 ill., \$8.00) Mr. H. Avray Tipping presents in highly attractive form the tale of the great architectural woodcarver from the time of his romantic discovery by Sir John Evelyn in 1671 through the long period of his activity in English churches, colleges and manor houses. The earlier chapters in the volume concern the growth of the joiner's importance in the early Renaissance in England, the permeating influence of Inigo Jones, builder of Whitehall Palace, who laid the cornerstone of the revived classic in England in a forlorn attempt to anglicize Palladio, the relation of English Renaissance art to its immediate precursors on the Continent, and finally the character of the art life during the first years of the Restoration, i. e., from 1660 to 1670, with the fine carvings of Tredegar Park and Brewers' Hall and the beginnings of the influence of Gibbons in the metropolitan field. Then follow thirteen chapters on Grinling Gibbons himself, chronicling the humble beginnings at Deptford, the scene of Peter the Great's maritime experiments, and the period of effulgence when the world of decorative art awaited the turn of his impatient hand. There are two sections devoted to Gibbons' connection with Hugh May at Windsor Castle and at Cassiobury and three to his relations with Sir Christopher Wren at St. Paul's Cathedral, London, at the royal palaces,

Kensington and Hampton Court, and at the universities. In the latter field Gibbons was well represented; he was given commissions at Trinity College, Cambridge, and at Pembroke, Trinity and Queen's Colleges, Oxford. Mr. Tipping also devotes much attention to the carver's work at the country houses; of these Petworth, Blenheim, Sudbury, Chatsworth, Belton and Melbury contain the best examples of Gibbons' craft. There is a very good chapter on the ability of the master craftsman as a sculptor, draftsman and designer, which will dispel the impression hitherto quite general that Gibbons' proper place is exclusively with the journeymen of the carvers' guild.

Grinling Gibbons, master carver to four English kings, first definitely appears in history in 1677, although our earliest record of his workmanship in England is found in the quaint language of Sir John Evelyn's *Diary* in 1671. Under date of January 18th he entered: "This day I first acquainted his Majesty with that incomparable young man Gibbon, whom I have lately met with in an obscure place by meere accident as I was walking neere a solitary thatched house, in a field in our parish, . . . I found him shut in; but looking in at a window I perceived him carving that large cartoon or crucifix of Tintoret, a copy of which I had myselfe brought from Venice, where the original painting remains. I asked if I might enter; he open'd the door civilly to me, and I saw him about such a work as for ye curiosity of handling, drawing and studious exactnesse, I never had before seene in all my travells. I questioned him why he worked in such an obscure and lonesome place; he told me that it was that he might apply himselfe to his profession without interruption, and wondered not a little how I had

found him out. I asked if he was unwilling to be made known to some greater man, for that I believed it might turn to his profit; he answer'd he was yet but a beginner, but would not be sorry to sell off that piece; on demanding the price he said £100. In good earnest the very frame was worth the money, there being nothing in nature so tender and delicate as the flowers and festoons about it, and yet the work was very strong: in the piece was more than 100 men." This meeting led to opportunities in London, introductions to Hugh May, whose importance in English Renaissance architecture has not yet been fully determined, and to Sir Christopher Wren. His work for the latter was chiefly at St. Paul's, notably in the great series of choir stalls on which he was occupied several years. Gibbons was above all an architectural woodcarver; he possessed an architectonic point of view, often favoring structural conceptions. He maintained always a proper subordination of his decorative motives to the mass of his subject and, above all, allowed full play for the expression of his materials.

Mr. Tipping's volume is splendidly produced; it is the second of a series of architectural monographs, published under the general editorship of Lawrence Weaver. Architects will remember the first of the group which concerned the *Houses and Gardens of E. L. Lutyens*. Both this and the book under discussion offer good indications of a serious purpose that augurs well for the success of the series. The size and shape is the same as that of *Country Life*, the English weekly periodical, and the paper is of a heavy calendered variety carrying its illustrations well, especially with reference to the intricate details so characteristic of the subject in hand.

RICHARD F. BACH.



Athenian Propylaea.

The Greek government continues its work of careful restoration of the monuments on the Acropolis by devoting its attention finally to the Propylaea. The structure dates from the Periclean time, was transformed into a fort by the Turks and in part destroyed by the explosion of a powder magazine in 1645, not many years after a similar fate had overtaken the Parthenon itself. The necessary material to block up the intercolumniations in the Propylaea in order to render the structure defensible was obtained by the Turks from the fine small temple of Niké Apteros. The fragments were later gathered and the temple rebuilt on its original site, which had in the meantime also served as a bastion. The Propylaea is one of the few existing Greek buildings in which both Doric and Ionic orders appear.

Salomon de Brosse.

Professor Simpson has published a detailed account of the French architect, Salomon de Brosse, known for many years in the histories as Jacques de Brosse, and whom the city of Paris tried to honor in 1838 by changing the name of a street near the church of St. Gervais-St. Protais, the façade of which he had designed, to "rue Jacques de Brosse." The writer facetiously notes an edition of the *Figaro* in 1877 in which de Brosse is summarily canonized and the street mentioned as "rue Saint-Jacques de Brosse." Many men who wrought well in the earlier phases of the Renaissance in France, and elsewhere, have for similar periods been shrouded in historical doubt. Your old monkish writer reported with care a pest among the monastic pigs, but often neglected to itemize monumental additions to buildings as important as San Francesco at Assisi. To

this type of partial chronicle de Brosse and a multitude of others have fallen victim.

We learn that he was a Huguenot and a member of the colony of artists gathered at Verneuil, which included the families of du Cerceau, Mestivier, de la Fons and du Ry. Professor Simpson gives a complete genealogical table showing the relations existing between the de Brosse and du Cerceau families, from which we gather that Salomon de Brosse was a grandson of the famous Jacques Androuet de Cerceau, author of *Les plus excellents bastiments de France*, and son of Jehan de Brosse, recorded in the royal lists as "maistre-architectuer." He was engaged upon the following important structures: the Palais du Luxembourg, the façade of St. Gervais-St. Protais, the Capuchin church at Coulommiers, the Protestant "Temple" at Charenton, and the Aqueduct at Arceuil.

Bow Church.

The church of Saint Mary-le-Bow — within sound of whose bells the true Cockney must be born—was built between 1671 and 1680, over a Norman crypt, supposedly of even earlier date than the venerable Temple Church. It was believed that excavations under this crypt would reveal a building of Saxon times. A London contemporary reports, however, that if any such building ever stood on the site, no vestige of it remains. The excavations, which have been going on for some time, did, however, bring into prominence the architectural quality of the fine Norman understructure, its vaulting and characteristic cushion capitals. The crypt, with its arches or "bows," was the source of the name of the church and within its confines the ecclesiastical Court of Arches formerly met.

The steeple of Bow Church has often been proclaimed the finest example of the English Renaissance tower both in Eng-

land and in this country. It far excels Wren's other important steeples in London, for instance, those of St. Bride's, Fleet Street, or of St. Vedast, Foster Lane, as well as a number of others, all called into being by that memorable architectural opportunity, the great fire of 1666, which brought Wren himself commissions for upward of sixty churches in London alone. That this 235-foot staged tower is not altogether incomparable is attested by the number of architects who give the palm to Gibbs' steeple of St. Martins-in-the-Fields.

Town Planning at London University.

London University has established a chair of Town Planning. Professor Stanley D. Adshead, F. R. I. B. A., has been called from the University of Liverpool to found and develop a new department in civic design along lines similar to those so successfully carried to completion at his former position. Professor Adshead has done effective work in the practical field; his scheme of improvements at Kennington for the Prince of Wales won him much praise. He has also been the moving figure for some time in the publication entitled *Town Planning*, while his connection with the University of Liverpool extended over a period of five years.

An Oldtime Architectural Competition.

Prior to the organization of the American Institute of Architects, competitions were conducted in varying degrees of honesty or the opposite, according to the membership of the building committee. One architect in 1870 or thereabouts complained that after he had paid a generous sum to a committee for permission to compete he was told that while opinion was in favor of his plan, the committee nevertheless "wondered if he did not care to contribute a little more generously toward the building fund," and when he said truthfully that he did not care to, the work was given

to another—perhaps more generous—competitor.

The programme for the Federal Capitol, as announced in the newspapers of March, 1792, was as follows:

A PREMIUM

of a lot in the city, to be designated by impartial judges, and \$500, or a medal of that value, at the option of the party, will be given by the Commissioners of Federal Buildings to persons, who, before the 15th day of July, 1792, shall produce them the most approved plan, if adopted by them, for a Capitol to be erected in the city, and \$250 or a medal for the plan deemed next in merit to the one they shall adopt; the building to be of brick and to contain the following compartments, to wit:

A conference room } To contain
A room for Representatives } 300 persons
each.

A lobby or antechamber to the latter

A Senate room, of 1,200 square feet of area

An antechamber and lobby to the latter

These rooms
to be of full
elevation.

Twelve rooms of 600 square feet area each for committee rooms and clerks, to be half the elevation of the former.

Drawings will be executed of the ground plots, elevations of each front, and sections through the building in such directions as may be necessary to explain the material, structure, and an estimate of the cubic feet of brick work composing the whole mass of the wall.

Thos. Johnson,
Dd. Stuart,
Danl. Carroll,

March 14, 1792.

Commissioners.

It is no wonder that, as a result of the programme, the majority of the drawings submitted were almost beneath notice. The best part of the joke though, that several competitors protested against the final award, as they considered their own designs better than the one selected, can be appreciated only by those who are familiar with the drawings, good and bad, that were submitted.



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SOUTH ENTRANCE—HOUSE OF ARTHUR
A. FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.

THE ARCHITECTURAL RECORD

AVGVST, 1915

VOLVME XXXVIII



NVMBER II



— *The House of* —
Arthur A Fowler, Esq.
Hewitt & Bottomley, Architects

By Everett V Meeks

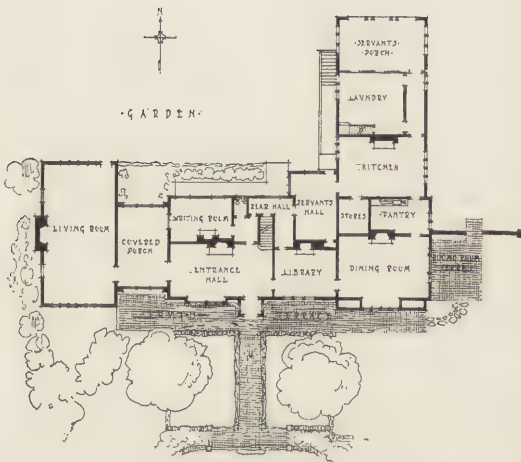


CONTRARY to the reiterated assertion by our art critics that public taste in America has not yet arrived at the point of real appreciation of the fundamental element of art in the work of our own artists who possess the ability to produce work evidencing such quality, there has been growing in this country a very lively, and now very accurate, public taste. Perhaps in no field of art is this more tangibly evidenced than in that considerable and extremely important branch of architecture devoted to the design of private houses. For if public taste had not progressed far enough for the house-building public to demand homes designed and carried out with this element of taste dominating the entire conception, architects would not have been, nor be, as they now are, continually commissioned to design and carry to a complete finish, on the interior

as well as the exterior, the number of houses now characterized by good taste.

Nowhere else has this modern feeling for good taste in private architecture developed to such an extent as in America. The fact that this desire for a true artistic atmosphere in private houses is new will hardly be questioned when we go back in thought even a few years, to that interval following the confusion of style coincident with the sudden and tremendously rapid scientific development which dominated the nineteenth century.

Well within the memory of many of us, and still standing today for all of us to see, in all of their fantastic detail, are the multitude of houses characterized, in the country, by turrets and towers, various-shaped windows, peculiar balustrade patterns, wild "piazzas" with turned columns, and naive touches of stained glass; and, in the city, by brown stone fronts



GROUND FLOOR PLAN—HOUSE OF ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.

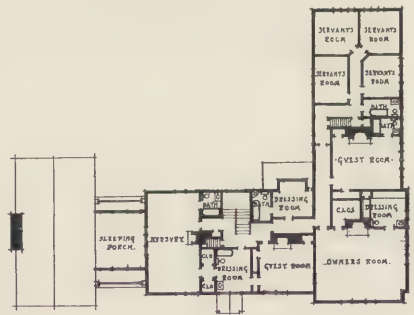
and ultra-complicated black walnut interiors. Twenty-five years ago every means possible was sought by the majority of designers of country houses to obtain a picturesque effect by using what was then considered picturesque detail, not realizing that the secret of real decorative effect is by composition and the consequent proper arrangement of mass—the only means of producing an artistically correct ensemble. The ability to design on broad principles is now, however, the common possession of a large and growing group of architects in this country.

The charm of the dissymmetrical in domestic architecture, with the accompanying intimate character so often called picturesque, has manifested itself particularly in English design, and it has done so from the very beginning of the private house in England, that is, from the sixteenth century on. The establishment of the modern home came with the building of the manor houses at the break-up of the feudal system; at the end, therefore, of the medieval era, and well timed with the arrival of the Renaissance in its first or romantic phase. This romantic style lasted through the glorious seventeenth century of English architecture, through the Elizabethan and Jacobean periods.

Early in the eighteenth century, however, England became self-conscious, both intellectually and artistically. The

new classical revival in letters and art found its great exponents in Joseph Addison and Christopher Wren. Art thereupon became thoroughly symmetrical; letters, life and society took on an artificial tone, and primness and polish became the fashion and order of the day. This balancing about axes, both intellectual and architectural, continued, and in the latter instance reached its highest development in the lovely but sophisticated work of the Brothers Adam. If we have called the seventeenth century the romantic period, might we not, therefore designate the eighteenth century as the sophisticated period of private architecture?

Then very suddenly, that is, when we speak in terms of art development, came, with the ushering in of the nineteenth century, the era of cheap printing and quick transportation, with the result that the world from the beginning of the century was flooded with pictures and prints of architectural material. Designers could readily find examples of buildings of all periods and the break-up of the orderly development of style began.



SECOND FLOOR PLAN—HOUSE OF ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.

From the ultra-sophistication of the late Georgian work the house-building world was shortly plunged into the "goody-goody" period of Victoria and Albert. The Neo-Gothic style came forth and flourished, and the antimacassar and Turkey red curtain had their day. This period may well be called a period of artistic sleep.

But with the coming of the twentieth century the artistic world has seen the beginning of the new Renaissance; a vigorous school has now arisen in England,



FORECOURT—HOUSE OF ARTHUR A.
FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.



SOUTH TERRACE—HOUSE OF ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.
Hewitt & Bottomley, Architects.

with men like Ernest Newton and E. L. Lutyens leading the new group of house designers. In our country a host of skilled designers are standing forth, as is very natural in a land where so many new homes are being built.

Additional impetus has been given to the movement of country house-building by the automobile. With the coming of motor transportation a great area of country has been opened up for occupancy, country which was otherwise too remote from railroads to be accessible for families whose members were intimately connected with business affairs. Most of these houses are permanent residences and are occupied throughout the year.

Every such house, according to our methods of design today, must be carefully planned to meet the individual needs of the individual family by which it is destined to be occupied. We no longer build from type plans, for the public has become educated to the point of knowing that as individuals, and as individual families, they can obtain individual homes

absolutely designed to fit their own needs. With this development of dignity in our American life has come the desire to live as one wishes and not as one's neighbors decree. The parlor of twenty-five years ago exists no longer, while the living room is today the principal room *par excellence*. This room is, therefore, becoming the chief study in American house-planning and, with the dining room, governs the ground plan of a moderate-sized house. The old idea of rooms *en suite* is rapidly being abandoned, whereas the desire for privacy in the home is increasing. This means the death-knell of the folding door and the final *coup-de-grace* of unnecessary doors in general.

A room, as such, has four walls. Those which happen to face on the outside of the building are primarily to keep out the weather, but those that are partitions are to keep out the rest of the house; it would, therefore, appear extremely illogical to put doors in such walls other than those necessary to pass through and then close.

It is in the arrangement of the second floor, the floor containing the sleeping apartments, that American architects have far surpassed their confrères in other countries. Perhaps this may be accounted for by a more luxurious method of living, in which we, a people of readily gained wealth, indulge. However that may be, today, even in the most modest of homes, facilities for bathing and for storage of clothing are almost universally amply provided. The old house of one bathroom has disappeared, for the increasing demand for privacy requires that bathing and dressing accommodations be provided, without subjecting the inmates of a house to the annoyance of delay or exposure. It seems a general proposition, therefore, that simplicity of composition, elimination of meaningless detail, avoidance of useless height and consistent use of material and color should govern the architecture of a house; and that individual comfort, maximum convenience and a proper degree of privacy should govern its plan.

Messrs. Hewitt and Bottomley, of New York City, were commissioned by Mr. Arthur A. Fowler to build, at Peapack, New Jersey, the house herewith illustrated. The house was not built all at one time. The central portion was first built as a separate complete house and the living room on one side and the dining room with the bedrooms over and the kitchen wing on the other side were built later. The accompanying illustrations show this recently finished house to be an excellent example of our new school of good taste. Messrs. Hewitt and Bottomley were, in this case, wisely permitted by their client to design a house close to the ground, that is, with the first floor raised but very slightly above the finished grade of the exterior. The myth of that so-called necessity, a great light cellar, three-fourths of which is generally utterly useless, had been exploded in this instance. The occupants of the house, therefore, are able to step directly out of their lower floor windows on to the ground outside. To this one feature alone is due great charm and a certain "intimateness" of character and it is to this same feature that many English houses

owe their charm; yet it is but recently in this country that architects have been allowed by their clients to remove the unnecessary stilts from beneath the houses they plan, as well as to omit the unnecessary attic floor; fear of dampness below and heat above being no longer the unsurmountable bugbear of the client, who has at last become willing to take his architect's advice in regard to these two points. Public good sense now goes hand in hand with public taste.

This house in question depends for its picturesque effect very rightly upon the carefully studied proportion of roof to side wall and very pleasing arrangement of gables and chimneys. The varying treatment of the eaves is particularly fortunate, for a certain interest is obtained by the two methods of finishing the sloping edges of the roof. The walls themselves are low enough to give the "close-to-the-ground" look so desirable in a country house. In general, great simplicity of character has been obtained by the entire elimination of unnecessary decoration of all kinds, and, furthermore, there are no great overhangs and hence no great artificial shadows. It takes an able and sure designer to thus courageously rely on his architecture alone to please; but, on the other hand, it is this very element of mass design and the omitting of any attempt at the above mentioned so-called picturesque detail which gives this house a charm of its own. Architect and client, working to the same end, have been able to dispose of the persistent "veranda," without which a house even fifteen years ago would have been impossible. In this case ample covered porches have been obtained within the mass of the building itself, so that the harmony of the exterior remains undisturbed by any out-cropping covered terraces.

Not only does the elimination of the unnecessary lend, as it were, a well-groomed look to the building, but the architects have made beautiful what are often unsightly features on an otherwise presentable exterior, that is, the rainwater leaders. In this case the leaders and the leader boxes are excellent, yet simple, in design and have been placed and



VIEW FROM NORTH GARDEN—HOUSE OF ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.

Hewitt & Bottomley, Architects.

painted in such a way as to add decidedly to the attractiveness of the exterior. These, together with a few panels of simply detailed and well placed lattice, are the only decorative features on an otherwise plain stucco exterior. With their white color they form a soft and pleasing contrast to the light grayish tint of the stucco and the dark gray shade of the shingle roof.

The windows are well arranged. One is somewhat inclined, however, to criticise the too liberal application of Venetian blinds. These seem quite unfortunate on an otherwise consistently arranged exterior. The contrasting color which they are painted, a grayish-blue green, does not entirely save their appearance nor explain their presence.

The one place on the exterior where the architects have allowed themselves to design an ornamental feature, is at the entrance porch-vestibule. This is charming in detail. On account of the general scheme of the house, it has been pos-

sible to arrange it close to the ground, thus making it most attractive and inviting.

The dominant feature in plan of this house is the isolation of the living room. Until recently, as a rule, architects have been inclined to err in their house plans in respect to the location of this room, for they have often yielded to the temptation to place it at the focus of the ground floor. The living room should essentially be the "foyer." If the French have no word for our "home," we have none for their "foyer." As such, the living room should not be under the direct observation of the chance visitor. The time has now come when our clients, almost universally, demand privacy, and build houses less for the spacious effect of rooms arranged *en suite* than for the individual and private needs of the family. This desire for privacy will continue to grow and prevail in the measure in which we as a people lose self-consciousness. Individuality is now developing



VIEW FROM TENNIS COURT—HOUSE OF AR-
THUR A. FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.



LIVING ROOM—HOUSE OF ARTHUR A.
FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.



CHIMNEY BREAST OF LIVING ROOM—HOUSE
OF ARTHUR A. FOWLER, ESQ., PEAPACK,
N. J. HEWITT & BOTTOMLEY, ARCHITECTS.



DINING ROOM—HOUSE OF ARTHUR A.
FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.



DINING ROOM FIREPLACE—HOUSE OF
ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.



GUEST ROOM FIREPLACE—HOUSE OF AR-
THUR A. FOWLER, ESQ., PEAPACK, N. J.
HEWITT & BOTTOMLEY, ARCHITECTS.

clearly and upon these lines our method of country life will reach its full maturity.

The particular living room in question has but one door connecting it with the rest of the house, and this door can be closed. The only other door in the room leads into the garden. Being in reality a separate pavilion without rooms above, an ideal proportion in regard to height is obtained. The room is finished with chestnut paneling, brought to the whitish-gray finish of weathered oak. The ceiling, as shown in the illustration, is vaulted and treated with a carefully detailed plaster pattern. The room, as a whole, has such good proportions and such wise restraint in design, that it has atmosphere, in spite of being somewhat more unfurnished than a room of this character should be.

The other functions of the ground plan are carefully and skilfully arranged with the knowledge and precision of the trained architect. If one were to criticise adversely the ground floor plan in any respect, it might be that the stairs, so all-important in a two-floor house of this character, should have had a more definite expression. This would have been possible without sacrificing the feeling of privacy evidently sought for

in this case, as indicated by the fact that the house seems to have been planned with a minimum of doors, most of which open in single leaves that fit into the paneling and look well when shut.

The dining room is likewise treated with paneled walls and finished in a pastel color of bluish-gray, with silver fixtures.

The arrangement of the second floor of a house of this character is, in the nature of things, very carefully worked out to meet the particular desires and needs of the family which is to occupy it. In general, the bedrooms have not only bath facilities, considered necessary in houses of today, but they have special dressing rooms; there is also an unattached dressing room and bath, all of which lend to the comfort of the house. If one were to criticise the second floor plan, it would be that the hall does not seem to be arranged in a direct and simple manner, but this is due to the fact that the major part of the house was never even thought of when the central section was built.

A careful examination of the illustrations herewith presented will do far more than any description in words to explain the care, precision and reserve with which this excellent design has been carried out.



STABLES—HOUSE OF ARTHUR A. FOWLER, ESQ., PEAPACK, N. J.
Hewitt & Bottomley, Architects.



TERRACE—PICKERING HUNT CLUB, PHOENIXVILLE, PA. MELLOR & MEIGS, ARCHITECTS.



REAR VIEW—PICKERING HUNT CLUB, PHOENIXVILLE, PA.
Mellor & Meigs, Architects.

Country-Club Houses



By Harold D. Eberlein

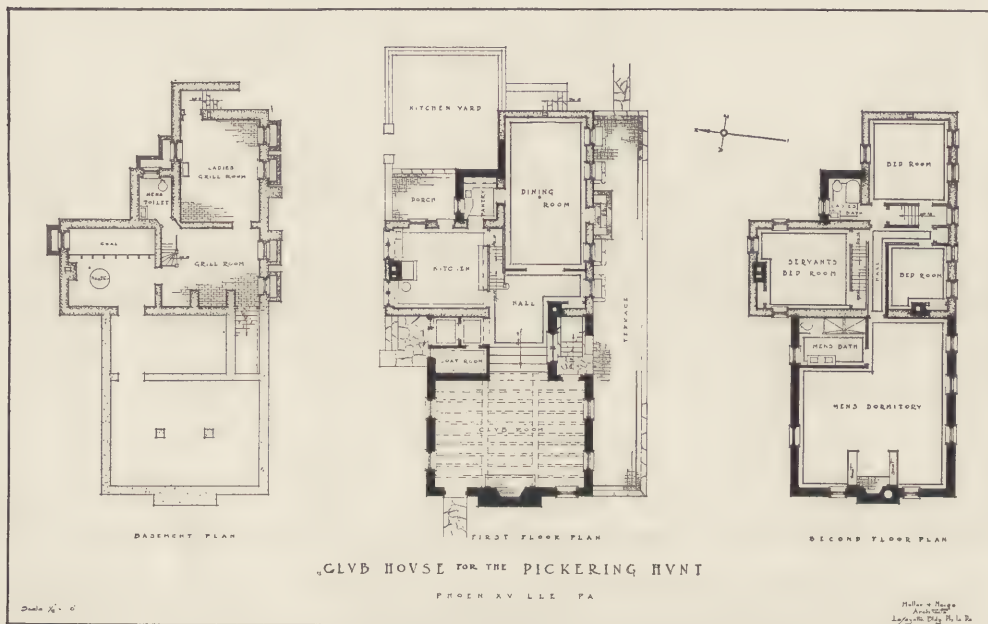
THE country club has become so common a feature of American life that it has occasioned a distinct architectural need. The solution of the country club house problem has been approached from various angles and treated in various ways, according to special local requirements and the resources available, but, in spite of all diversities arising from local exigency or preference, country club houses may be ranked under one or the other of two classifications which, together, are all-inclusive. They are either converted farm houses or country seats, remodelled and added to to answer their new purposes, or else they are structures erected

de novo and planned solely with specific ends in view. Both types supply numerous examples of capable and oftentimes original handling.

Before examining either class in detail, however, and reviewing some of the work shown in the accompanying illustrations, it will conduce to a clear understanding of the field about to be investigated if a definition is formulated telling exactly what a country club is and a statement made explaining the requirements to be met. It will be within the bounds of literal exactitude if we say that a country club is an organization for the encouragement and convenient pursuit, whether individually, collectively or

in teams, of sundry forms of outdoor recreation. This definition is sufficiently comprehensive to include fox-hunting clubs, polo clubs, tennis clubs, golf clubs, or any of the other clubs definitely organized to facilitate the following of one especial form of recreation. At the same time it also includes the clubs usually spoken of as country clubs, that

considered in the choice of a location for a country club house. In connection with the house, there must be sufficient ground available for the different activities in which the club members engage, such as tennis, polo, golf and the like. In the second place, the character of the ground and the lie of the land must be suitable for the special sorts of recrea-



FLOOR PLANS—PICKERING HUNT CLUB, PHOENIXVILLE, PA.
Mellor & Meigs, Architects.

serve as local headquarters for a number of different sorts of outdoor diversion calculated to suit the varied tastes of a large membership.

Within the purview of country club activities, therefore, is embraced everything from innocuous croquet and the most leisurely senile indulgences in golf to the most strenuous and hazardous forms of polo and steeplechasing. Furthermore, our definition, although it contemplates, before all else, the avowed pursuit of outdoor recreation, does not exclude such indoor features of attraction as may conduce to the comfort, pleasure and diversion of the club members when the weather is inclement or outside conditions are otherwise unfavorable.

There are three prime essentials to be

tion most popular among the members. Last, but by no means least important, the location must be readily accessible by rail or motor from the city or town in which most of the members live. Modern conditions of city life—the circumscribed quarters in which many find it expedient to live, the unending stress and tension of both business and social demands, the tireless insistency of the machinery of civilization grinding in our ears and the thronging pressure of humanity from all sides, these and kindred circumstances lay a heavy tax upon the mental and physical vitality alike, and in order to preserve any sort of balance, some kind of physical relaxation and total change becomes an imperative necessity. This relaxation is most easily



HALLWAY FROM CLUB ROOM—PICKERING HUNT CLUB, PHOENIXVILLE, PA.
Mellor & Meigs, Architects.



FIREPLACE AND SETTLES IN MEN'S DORMITORY—PICKERING HUNT CLUB, PHOENIXVILLE, PA.
Mellor & Meigs, Architects.



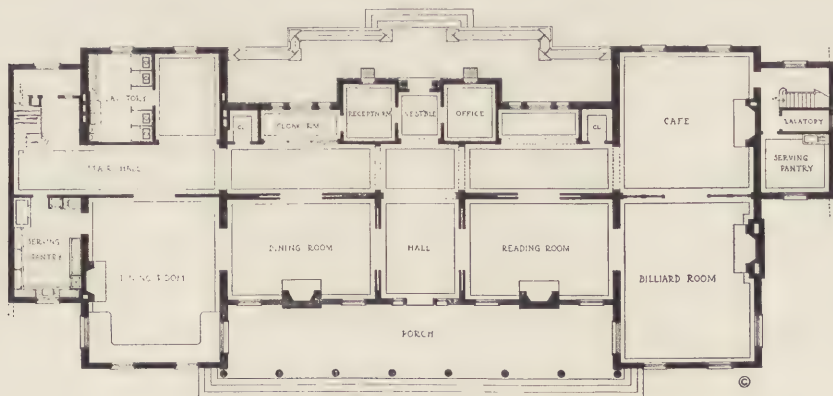
SECOND FLOOR PLAN

From "A Monograph of the Work of McKim, Mead & White;" the Architectural Book Publishing Co.
SECOND FLOOR PLAN—GERMANTOWN CRICKET CLUB, PHILADELPHIA, PA.
McKim, Mead & White, Architects.

effected for a number of people by co-operation through the medium of the country club. In view of this condition the high importance of accessibility is obvious. Upon the factors of necessary accessibility and expense must depend, to a great extent, the expediency of acquiring properties easily available in the shape of farmhouses or country seats that can be remodelled or added to, to fit them for their new uses.

Apart from the essentials to be heeded in the choice of location for country clubs, must be borne in mind the requirements to be satisfied by the buildings themselves. There must be enough well-appointed locker rooms for members and visitors, there must be adequate provision for cooking and for feeding members and their guests, and oftentimes it is found

not only convenient but necessary to have sleeping accommodations for a limited number of persons. Not only must the actual membership of the club be taken into account in planning for all the various corporate needs, but the possible accessions of guests, arriving in large numbers for special occasions, must be allowed for, too. Furthermore, it is frequently expedient to provide one means or another of indoor diversion, such as pool and billiard tables or bowling alleys. The country club house, in short, is expected time and time again to combine a good measure of the engaging interest, manysidedness and elasticity of the successful summer hotel. So much for the physical desiderata to be considered in the location and building of the country club house, desiderata to be re-



From "A Monograph of the Work of McKim, Mead & White;" the Architectural Book Publishing Co.
FIRST FLOOR PLAN—GERMANTOWN CRICKET CLUB, PHILADELPHIA, PA.
McKim, Mead & White, Architects.



SOUTHWEST VIEW—GERMANTOWN CRICKET CLUB, PHILADELPHIA, PA.
McKim, Mead & White, Architects.

alized in acceptable combination with appropriate architectural treatment.

Pursuant to this *resumé* of qualifications, it will be illuminating to examine several interpretations of the problem of country club house architecture in different parts of the country. The first subject, in order of illustration, is the Pickering Hunt Club, near Phoenixville, Pa., an example of judicious remodelling and addition by Messrs. Mellor and Meigs. As the cuts indicate, the structure is of the Pennsylvania farmhouse type, a truly Colonial expression of architecture. The original house was an unpretentious piece of local work, to begin with, moulded upon the lines of Colonial tradition peculiar to the neighborhood, and the architects, although they have so totally changed the interior arrangement and added so much that is new that the building retains little semblance of its former appearance, have wisely adhered to the simple characteristics of the old type in whatever they have done. In the plans of the first and second floors, the walls of the original farmhouse are indicated by dotted lines, while the walls of all additions are marked by lines of solid black. It will thus be seen that the

structure, in its unaltered state, was an oblong rectangle in plan, facing south, with an ell kitchen extension to the north. It will also be seen that the whole western portion of the house, where two round-headed dormer windows appear in the roof, is an entirely new piece of work, added to accommodate the club room on the ground floor and the men's dormitory on the floor above.

In the readjustment and enlargement of this old farmhouse to meet new needs, the plan followed has been straightforward and practical. Circumstances made it necessary to utilize every available inch of space, and the general grill room and ladies' grill were put in the basement, which is well lighted by enlarged cellar windows opening into ample sized, bricked wells cut out from the paved terrace along the south front of the house. While the plan of the ground floor contains full provision for all necessary features, conveniently and compactly arranged, there is no waste room, and hall, club room and dining-room are so disposed that they have abundant sunlight, ventilation and agreeable view. Kitchen and pantry are efficiently equipped and lighted. On the second



SOUTHEAST VIEW - GERMANTOWN
CRICKET CLUB, PHILADELPHIA.
McKIM, MEAD & WHITE, ARCHITECTS.



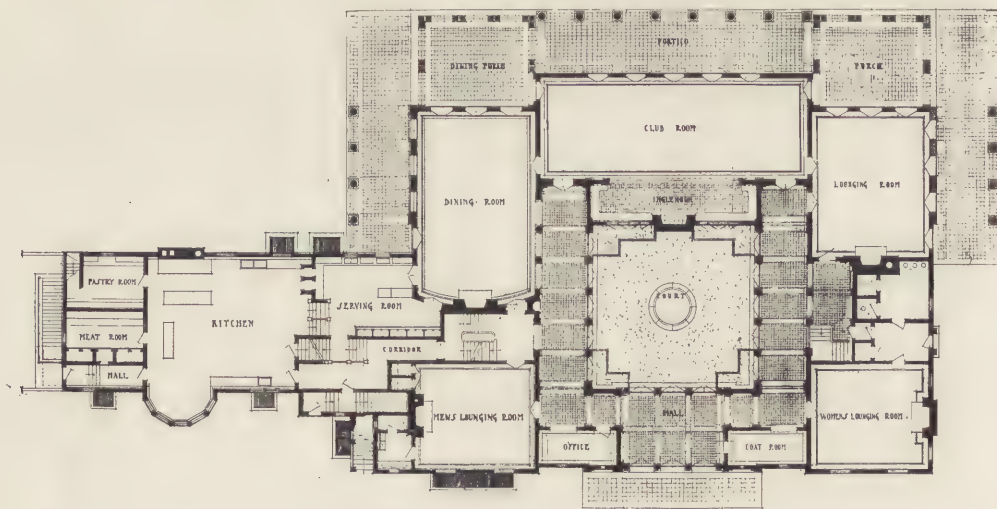
GATEWAY—GERMANTOWN CRICKET CLUB, PHILA-
DELPHIA. McKIM, MEAD & WHITE, ARCHITECTS.

floor similar economy in planning has made it possible to afford two fair-sized bedrooms and a bath for the ladies, a large dormitory and bath for the men and comfortable quarters for the servants. The high backed settles, projecting into the room from each side of the fireplace in the men's dormitory, supply an agreeable and practical touch of built-in furnishing peculiarly suitable to the place in which they are employed. In point of adequate provision for the comfort and convenience of its members, in the pursuit of the particular form of recreation for which they are organized, the club house of the Pickering Hunt fulfills the physical requirements laid down.

Examined with a view solely to architectural considerations, it is no less satisfactory. It is matter for both satisfaction and commendation that, in the incorporation of much new work with an old body, the architects have been content to accept the heritage of a local tradition, with whatever limitations it might impose, and to carry out their designs in a spirit consistent with the genius of the fabric serving as a nucleus for their operations. It must not be imagined, however, that they have slavishly or pedantically copied the pre-existing work and forsaken initiative or originality in the course of addition. While scrupu-

lous exactitude in following a model is most laudable in any process of restoration, it would be extremely stupid and ridiculous of a capable designer to hamper himself in new work and stultify the promptings of his creative capacity by a blindly superstitious clinging to the minutiae of a rigid and narrow, and some times unlovely as well as inappropriate, aping of a traditional form. In additions to old work it is the architect's proper function to interpret the spirit of the particular traditional style, in which he is expressing himself, by a reasonable concession to modern needs, and if, by careful study, he is thoroughly imbued with the spirit and principles of that traditional style, he will almost unconsciously design in accord with its genius, just as truly as did the old architects to whom it was a contemporary development, and yet his creations will have the freedom, breadth and life of unfettered originality. It only goes to show that in architecture, as well as in other things, a too strict observance of the letter is apt to kill, while the spirit gives life.

Anyone familiar with the peculiarities of local tradition in the neighborhood of the Pickering Hunt Club can see at a glance that the new wing exhibits specific features for which that tradition furnishes no exact precedent, and yet no



GROUND FLOOR PLANS—PIPING ROCK COUNTRY CLUB.

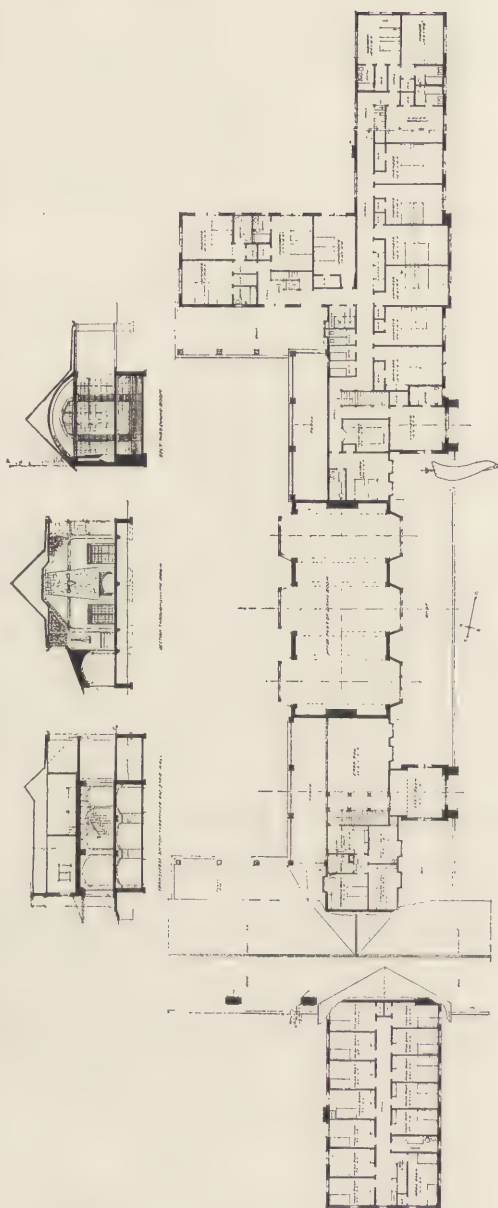
Guy Lowell, Architect.



SOUTH FRONT-PIPING ROCK CLUB
HOUSE. GUY LOWELL, ARCHITECT.

one can truthfully say that the ensemble is not harmonious or that either conception or execution strike a dissonant note. The round-headed dormers, the form of the projecting chimney, of which a portion recedes to the face of the west wall with a sharply battered slope, the single story and attic treatment of the north side of the new wing, and the very angle of the roof pitch have no exact analogues in older buildings of the countryside. Nevertheless, the combination is singularly felicitous and satisfying, and so happily does the execution of the added wing coincide with the vernacular modes of expression, from the texture of the rough cast, whitewashed walls to the well proportioned muntins of the sashes and the profile of the cornice moulding, that not even the narrowest purist could cavil at the result. Lawrence Weaver, referring in one of his recently published books to Walter Pater's dictum anent breadth, centrality with blitheness and repose" in Greek art, pertinently observes that "it is the function of the modern architect to secure for his buildings these four qualities. Even in simple buildings we should not look in vain for breadth, centrality, blitheness and repose. Perhaps especial stress may be laid on the quality of blitheness." Those who far prefer other modes of architectural expression than the sundry manifestations of local Colonial, proper to different parts of the country, will, nevertheless, recognize in the club house of the Pickering Hunt the presence of three, at least, of these cardinal qualities. Though modest in dimensions, it has the breadth of aspect that carefully considered proportions bestow; refreshing bits of architectural pleasantries occur in the iron monogram on the face of the chimney, the arrangement of chimney pots and at other points on the exterior, and, last of all, there is everywhere patent the dignity and repose of honest and unassuming simplicity.

In their adoption of vernacular methods and by their faithful adherence to the spirit of local tradition in working out the design for a new building, McKim, Mead & White showed great wisdom when they built the club house for the Germantown Cricket Club at



FLOOR PLANS—LAKE SHORE COUNTRY CLUB, GLENCOE, ILL.
Howard Shaw, Architect.

Manheim, Germantown, Philadelphia, nearly twenty years ago. This building has since been added to from time to time, so that it still retains a good deal of the interest of novelty. In the development of its plan and physical capacity all the complex requirements presented by



TERRACE-LAKE SHORE COUNTRY CLUB,
GLENCOE, ILL. HOWARD SHAW, ARCHITECT.



LONG GALLERY—LAKE SHORE COUNTRY CLUB,
GLENCOE, ILL. HOWARD SHAW, ARCHITECT.



ENTRANCE FRONT—LAKE SHORE COUNTRY CLUB, GLENCOE, ILL.
Howard Shaw, Architect.



DINING ROOM—LAKE SHORE COUNTRY CLUB, GLENCOE, ILL.
Howard Shaw, Architect.



SOUTHWEST FRONT—BELLE REVE COUNTRY CLUB, ST. LOUIS.
E. G. Garden, Architect.

the housing of any large country club had to be met and the experience of nearly two decades of continuous use has proved the solution of the problem satisfactory in all its practical aspects. But it is from its purely architectural side that the club house at Manheim makes its strongest appeal. While the architects did not fetter themselves by any pedantry in their interpretation of the American Georgian mode, or its modern adaptation to needs unheard of when the style had reached the flower of its excellence, they preserved a characteristic quality that stamps the structure as belonging unmistakably to the general type of Georgian expression proper to Pennsylvania and particularly to the neighborhood of Philadelphia.

In making their selection of a style to work in, they doubtless realized that, while various other modes might have answered equally well or even better in point of physical suitability and, perhaps, in point of architectural amenability for the purpose in view, the environment of a peculiarly strong and virile local Georgian tradition and the presence on the grounds of an eighteenth century building, to be retained for club uses, would have made any other type of architecture appear singularly incongruous and unwholesomely exotic. Although in the choice and use of materials, as well as in the matter of style, the architects exhibited a sincere regard for local pre-

cedent, they found ample scope for originality in the way they managed the treatment of the task before them and the result compares most favorably with other large buildings of kindred type, such as the Garden City Hotel, designed by the same firm. The elevation is restful in scale and there is a dignified and reasonable reticence in the disposition of ornamental detail. In the free wall spaces, particularly at the east and west ends of the building, much reliance has been placed upon the texture and bonding of the brick to impart interest. The whole structure possesses a perennial charm of geniality in its aspect and yet, although there is no suggestion of austerity, the repose of simplicity is unmarred by any irresponsible or whimsical flights of impetuous decoration.

Still another building that displays a marked evidence of regard for local tradition, in both the character of its design and the restrained use of materials, is the Piping Rock Club house by Guy Lowell. Not only does the broad and simple exterior treatment of this interesting structure accord with the traditional architectural genius of the neighborhood, but the arrangement of the mass and the simplicity of material and color are in keeping with the nature of the environment. One feature of this building invites especial notice, the manner of dealing with the porches. For obvious reasons, porches are a *sine qua non*

for any country club house intended to meet the varied requirements of a large membership; representing more or less diversity of recreational inclinations. At the same time porches furnish a fruitful source of architectural embarrassment, particularly if they are to cover any considerable area, as they do in this instance. Fortunately, at Piping Rock, they are so designed and so placed that they possess dignity and seem to be necessary and integral parts of the structure. They are prominent but not obtrusive. There is no suggestion of the fortuitous, tacked-on, lean-to appearance that porches so often present.

From the examples of country clubs in different parts of the East thus far referred to, it may be gathered that the architects, who designed or converted them from some prior use, have in general been influenced in their manner of expression by a sense of fitness that dictated some measure of observance of local precedents, enough, at least, to ensure an appropriate degree of congruity with other characteristic buildings in the

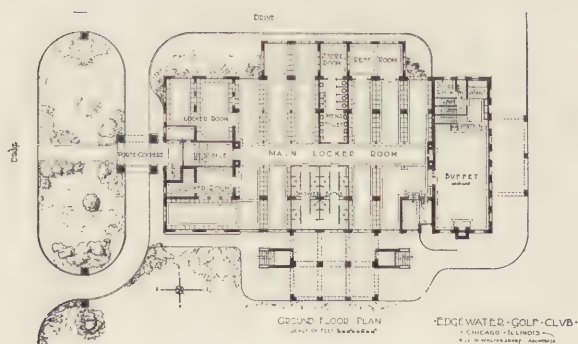
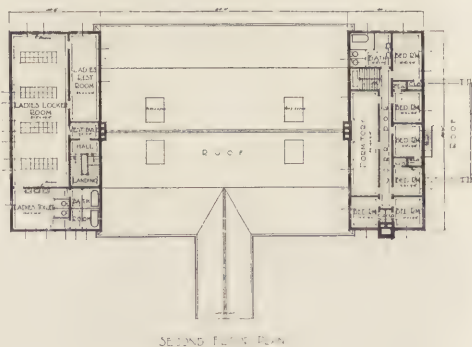
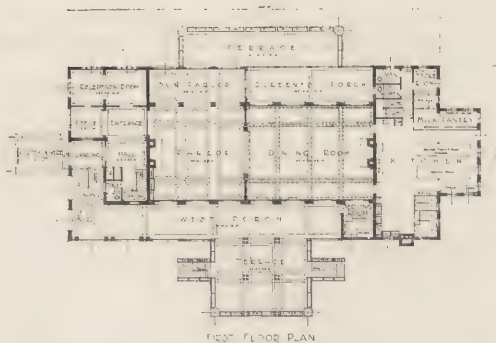
vicinity and with the natural setting. In the Middle West it is quite a different matter. There the great development of cities and towns mainly took place after the admirable architectural types of the eighteenth century had gone completely out of fashion and, since the modern revival of interest in reputable architectural achievement, the eclectic tendency of our own day has resulted in the utmost diversity and commingling of types. Hence, we do not expect to find and do not find any strongly established, locally prevalent types, peculiar to certain areas and of a character sufficiently pronounced to create a recognizably distinct tradition. The architect, therefore, has to draw his precedents from distant sources and must accept an onus of responsibility in choosing his mode of expression and adapting it to current demands, quite independently of any traditional trend, which is often so useful an agent to the Eastern architect in suggesting a suitable course to follow. This fact ought to be kept in mind while considering the country club house work



ENTRANCE FRONT—BELLEREIVE COUNTRY CLUB, ST. LOUIS.
E. G. Garden, Architect.



READING ROOM—EDGEWATER GOLF CLUB, CHICAGO.
Hill & Woltersdorf, Architects.



FLOOR PLANS—EDGEWATER GOLF CLUB, CHICAGO.
Hill & Woltersdorf, Architects.



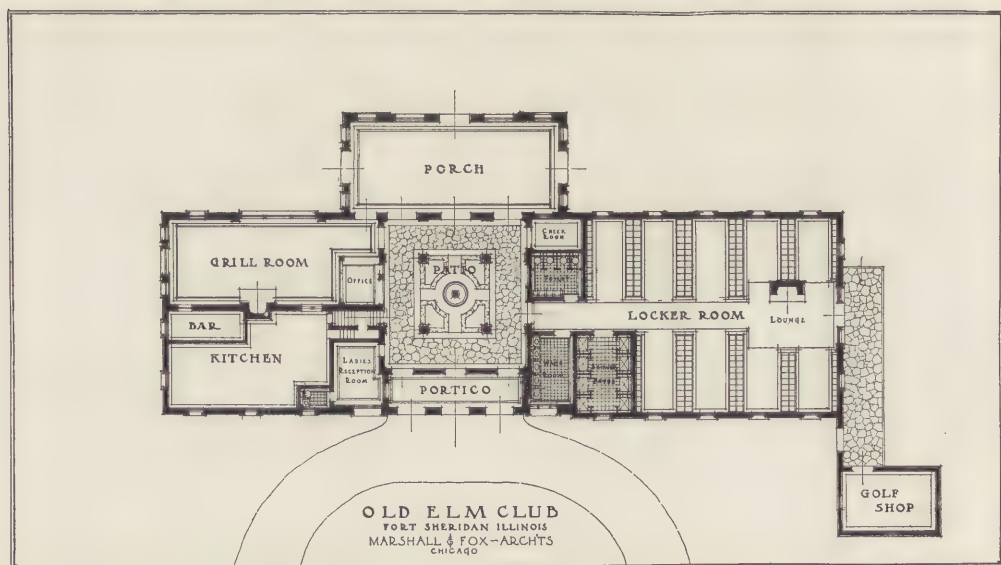
NORTH FRONT—EDGEWATER GOLF CLUB, CHICAGO.
Hill & Woltersdorf, Architects.



SOUTH FRONT—EDGEWATER GOLF CLUB, CHICAGO.
Hill & Woltersdorf, Architects.



DETAIL—OLD ELM COUNTRY CLUB, FORT SHERIDAN, ILL.
Marshall & Fox, Architects.



FLOOR PLAN—OLD ELM COUNTRY CLUB, FORT SHERIDAN, ILL.
Marshall & Fox, Architects.



OLD ELM COUNTRY CLUB, FORT SHERIDAN,
ILL. MARSHALL & FOX, ARCHITECTS.



INNER COURT—OLD ELM COUNTRY CLUB, FORT
SHERIDAN, ILL. MARSHALL & FOX, ARCHITECTS.

done in recent years by the architects of the Middle West.

In the first of the Middle Western country club houses illustrated, that of the Lake Shore Club, at Glencoe, Illinois, designed by Howard Shaw, we meet with features quite different from anything to be found in the Eastern work already reviewed. Whether or not one agrees with Mr. Shaw's conception of what a large country club house ought to be or approves of the form in which he has given material shape to his ideals, it is undeniable that the building presents many points of interest, albeit the reasons for some of the things that have been done are not always transparently obvious. It is hard to understand, for one thing, just why English Collegiate Gothic should have supplied the primal inspiration for the entrance front of a twentieth century country club house, as it seems to have done, or just why the primal inspiration, in brick with stone trimmings, should appear only in intermittent spots separated by long, intervening ranges of concrete building of wholly different architectural provenance.

The terrace front is far more homogeneous in aspect. The playful touches, here and there in evidence, are fully in accord with the spirit of the structure, the embossed and crenellated barge, cornice or gutter appropriately fulfills both a decorative and utilitarian function and there is an agreeable unity in the entire façade. Within, the building is admirably planned to meet the needs of a large membership and its comprehensive provisions in this respect are particularly commendable. The interior also contains some features of marked architectural charm, such, for instance, as the long, tile paved gallery or corridor, of which an illustration is given. It is agreeable to note there the evidence of a returning recognition of the practicability and decorative value of legitimate plaster ornamentation.

The Belleve Country Club house at St. Louis, designed by Mr. E. G. Garden, presents an interesting and, all things considered, an agreeable mass and the architect has wisely confined himself to a single and appropriate material in

which to render a structure in Georgian mode. The flanking wings exhibit both dignity and simplicity and lead up logically to the central mass, capped by an unusual but pleasing octagonal cupola. One cannot help regretting, however, that the architect did not provide a portico with a pediment, which would have been thoroughly in keeping with the rest of the building, instead of the double-decked veranda. The really well-designed doorway, with its pediment and Ionic pillars, is too small for the space it occupies, so that it is out of scale with its immediate surroundings and it is misplaced against a background of glass sash, opening into a sun room, whereas it needs a solid wall to set it off to proper advantage. Nevertheless, judged from an architectural point of view, the building has distinct merit.

The Edgewater Golf Club, at Chicago, designed by Messrs. Hill and Woltersdorf, is a building whose ancestry may be ultimately traced to English sources. The proportions of its mass are agreeable and the form is a consistent outward indication of the plan, so that it is quite plain there has been no striving for effect by working from elevation to plan. Taken all in all, the club house has a mien of honest dignity and the sweep of the roof, unbroken save for the lid ventilators, contributes to this impression. Stress has apparently been laid on completeness of equipment and the *ensemble* suggests a somewhat keener solicitude for comfort and convenience than for grace in details.

It is a little unfortunate that three different materials should have been employed for the walls. The result, one feels, would have been happier and more restful if brick had been used from foundation to roof. The changing courses of varying colors and textures produce a disquieting sensation and the introduction of half-timber work in the gable ends above a story of unadorned stucco is not to be commended. Half-timber work is supposedly both structural and decorative. In this particular instance it is plainly not structural and can scarcely be considered decorative.



MAIN ENTRANCE—FRANKLIN BUILDING, CHICAGO. GEORGE C. NIMMONS, ARCHITECT.



SOME INDUSTRIAL BUILDINGS By GEORGE C. NIMMONS



A NUMBER of interesting attempts have been made in the last few years to construct buildings which, although their purposes required a high degree of economy, might, nevertheless, present a dignified and pleasing appearance. The Chicago architects have particularly distinguished themselves in this field. The great warehouses and factories of which they have been the authors include some of the more notable contributions to architectural design in America.

Mr. George C. Nimmons, formerly of the firm of Nimmons and Fellows, is one of those who have occupied themselves particularly with this type of construction. The results achieved by him are of a high degree of merit, and are well shown by the accompanying illustrations, taken from some of his more recent works.

In the design of most of these buildings is a tower which forms the dominating feature of the facade. The tower, in each

case, has a good reason for its existence, as it encloses the water tank of the sprinkler system usually required now by the fire insurance underwriters for a low insurance rate. The old method of erecting these tanks exposed on the roof was unsightly and unattractive. At first the insurance authorities did not favor the centralizing of their water supply for a large plant, but since it has been tried and proven effective for their purpose there is no longer any objection to it. It is also interesting to note that the insurance requirements for the water supply of an industrial plant, taking into account the size of the tank and its height above the roof, are nearly always such as to make it possible to design a well proportioned tower. Inasmuch as the expense involved in enclosing the sprinkler tank is not materially greater than the cost of supports and foundations for an exposed tank, it has often been possible to secure the owner's consent to make a

water tower the principal feature of the main facade and utilize the base of such a tower for the main entrance of the building. The result is that the sky-line of the buildings is much improved, and an interesting feature added to a design which might otherwise be box-like and devoid of any particular attraction.

In the Kimball Building, Mr. Nimmons not only succeeded in securing a water tower of this kind, but he also persuaded the owner to omit the objectionable steam whistle and substitute a set of chimes in the belfry of the tower to signify the opening and closing hours for work in the factory. Another point of interest in connection with this building is that the ceiling beams shown in the first floor display room are not false beams but are solid concrete structural beams which really support the floor above. The owner also gave up sufficient ground along the front of the building for the planting of shrubbery and vines, which have not yet attained much growth.

The floor plan marks the location of the tower, which is the main entrance to the building. On the right of this are the display room and main offices, and the balance of the floor is given over to storage of automobiles and to some of the manufacturing processes which begin on this floor and extend to the top story, where there are saw-tooth skylights. The building has been specially adapted for the manufacture of automobile bodies, not by machinery, but largely by hand, in constructing cars after special designs. The area of each floor is 57,000 square feet, and the construction throughout is of reinforced concrete.

The Reid, Murdoch and Company Building stands on the Chicago River between North Clark and North La Salle Streets, and has also a water tower with a large clock. Formerly it had been the custom of builders to face the back doors and the unattractive parts of their buildings on this river, but recently the people have been aspiring to improve the Chicago River as a part of Mr. Burnham's plan for the general improvement of the city. The owner of this building is the first to consent to an effort on the part of his architect to make the

river front of his building attractive. The shipping dock on the river, which is usually built of wood, in this case is of solid concrete, and above it is a promenade, or public sidewalk space, bracketed out from the building, which is intended to afford the public an opportunity to pass up and down the river front without the interruptions which they would experience on the dock below. Since this building has been erected it has been recommended that other new buildings continue this bracketed sidewalk so that some day an uninterrupted passage may be secured along the river.

The peculiarly shaped site for this building, with the narrow neck running out to Clark Street only forty-two feet wide, raised the question as to whether the main architectural features to emphasize the building should not be placed on the left side along La Salle Street, but the architect and the owner finally decided to make the river elevation the principal front, so as to help improve conditions along the Chicago River and to have the advantage of the river as a foreground in front of the principal elevation of the building. The river front was therefore divided in two, and a tower placed in the middle with a pavilion on each side.

The balcony sidewalk above the river secured a proper approach on the level of the adjoining bridges and streets to the entrance placed in the tower at the level of the first floor.

The basement plan shows the shipping floor, and is of considerable interest from the standpoint of the requirements usually essential for a wholesale grocery house. Means of receiving and shipping goods are provided for in four ways: the railroad tracks entering the building in the rear, the river with boat transportation in front, the wagons along La Salle Street and the Illinois Freight Tunnel with an elevator coming up near the center of the basement floor, which is provided with narrow gauge railroad tracks running through the shipping floor from this tunnel elevator.

The goods inside of the building are handled vertically by means of freight elevators, vertical conveyors and spiral

chutes. There is a system of elevating goods directly from freight cars by means of conveyors to almost any point in any story of the building. The freight elevators and spiral chutes are mostly located along the fire wall so as to give as much space as possible between them and the railroad tracks, wagon platform and river dock.

The first floor shows the salesroom and offices of the building, and the typical floor plan is given with the idea of showing the storage space for the various kinds of goods. Manufacturing of certain groceries takes place on the top floor, such as roasting of coffee and the putting up of various kinds of fruits. The construction of the building is of reinforced concrete, of the cantilever flat-slab system. Each of the floors is 42,000 square feet in area.

The Franklin Building is one of a special type, being erected for printing, engraving and particularly color press work. The owner of this building laid down some interesting and unusual requirements for its design. He may be classed as one of the insurgents of the laity who has turned entirely against all that is conventional and particularly classical in architectural design. He required that his building be designed entirely with straight lines, as he had a prejudice against the curve; that there be no conventional architecture whatever in its design, that it have brilliant color introduced through the medium of tile or terra cotta, and that the art of printing should be indicated in the decoration. This was done in the following manner:

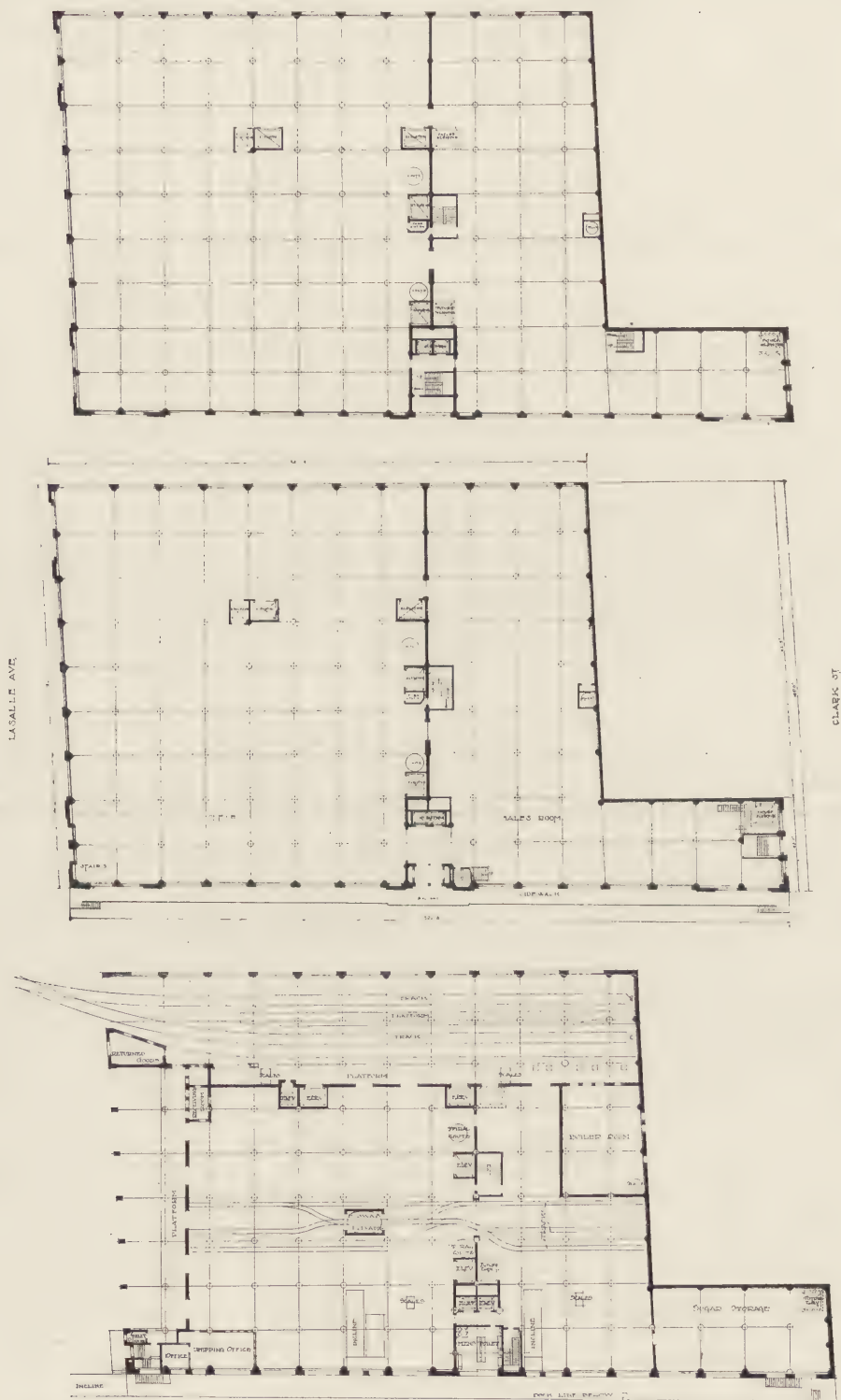
A painting was made by Mr. Oskar Gross for the panel over the main entrance door, showing a view of Gutenberg's printing office, and there were also panel pictures made for the first story spandrels of the artist, the book-binder, the engraver, the typesetter, and the other crafts connected with printing. These were all painted in color and reproductions were made in tile, following these colors as closely as possible. In addition to these features, the polychrome effect of colored tile and terra cotta was used throughout the front of the building. There is a large studio

with a skylight over it at the top of the building, which is the reason for the peculiarly shaped gable.

The Sears, Roebuck and Company plant, in Kansas City, is a branch of the Chicago mail-order house, whose main buildings in Chicago, the work of Messrs. Nimmons and Fellows, have already been illustrated in these pages. The Kansas City branch, the first unit of which is already constructed, is designed, as the plan indicates, for a much greater ultimate extension. The future development calls for a plant eight times the size of the present building. There will be two distinct parts in the future plant, the one in front containing the large tower at the center of the front of a building arranged around four sides of a court, and the second, or rear portion of the plant, disposed along two sides of a large freight depot connected above with bridges.

The Seattle Building, which is intended for another branch of Sears, Roebuck and Company, is now in process of construction.

The building is to be a self-contained mail-order house. The scheme of the plan as shown, consists of occupying the ground rather continuously over the site in the first story, and providing for an H-shaped plan in the upper floors, placing in the middle part of the H the offices and toilet rooms, thereby leaving the front and rear portions of the building free and uninterrupted for storage and merchandising purposes. The method of handling goods in this building consists of receiving them on railroad tracks in the rear at the first story and on wagons at the left side. Goods are to be shipped away by the railroad tracks in the center and under one of the courts. The freight elevators are arranged to take goods up through the building and spiral chutes are provided for bringing them down to the second floor, where they will be packed and discharged again by conveyors to the outgoing railroad tracks in the first story. The various upper floors contain the main offices and all the different merchandising departments which have headquarters and stocks of goods in this building.



BASEMENT, FIRST AND TYPICAL FLOORS—BUILDING OF REID, MURDOCH & CO., CHICAGO.
George C. Nimmons, Architect.



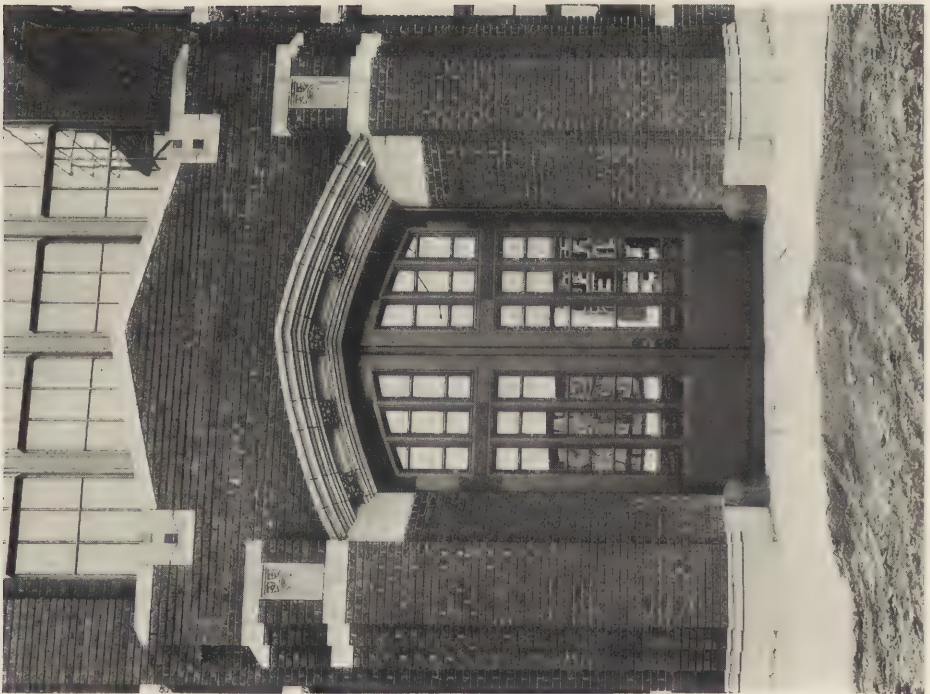
BUILDING OF REID, MURDOCH & CO., CHICAGO.
George C. Nimmons, Architect.



DETAIL—BUILDING OF REID, MURDOCH & CO., CHICAGO.
George C. Nimmons, Architect.



DETAIL—BUILDING OF REID, MURDOCH & CO., CHICAGO.
George C. Nimmons, Architect.



MOTOR CAR ENTRANCE—BUILDING OF C. P. KIMBALL & CO.
George C. Nimmons, Architect.



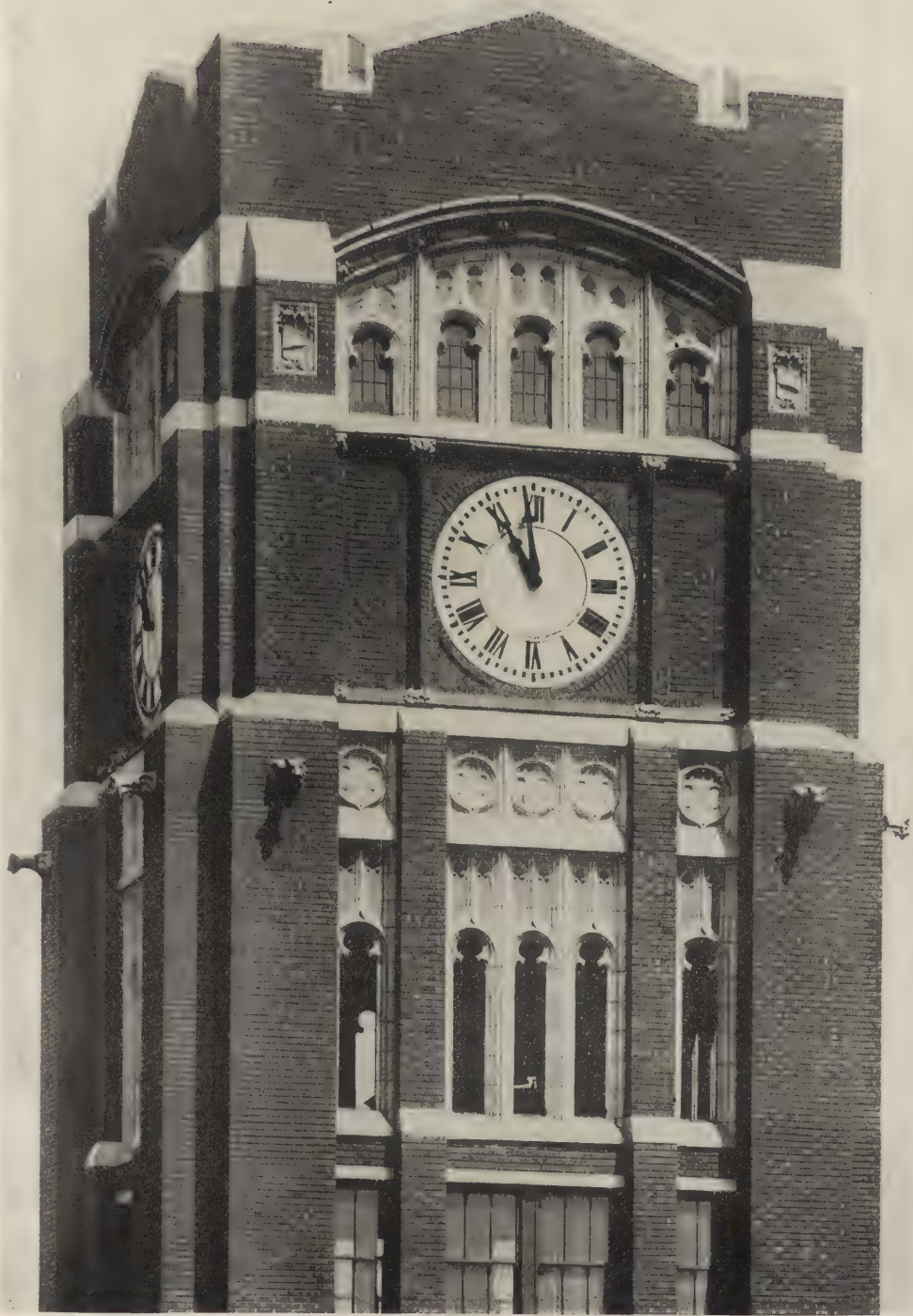
MAIN ENTRANCE—BUILDING OF C. P. KIMBALL & CO., CHICAGO.
George C. Nimmons, Architect.



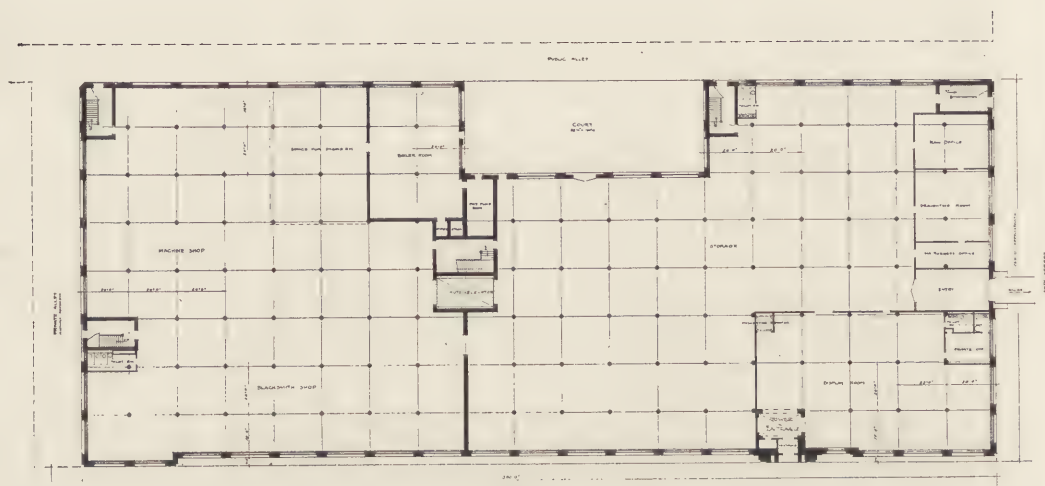
DISPLAY ROOM—BUILDING OF C. P. KIMBALL & CO., CHICAGO.
George C. Nimmons, Architect.



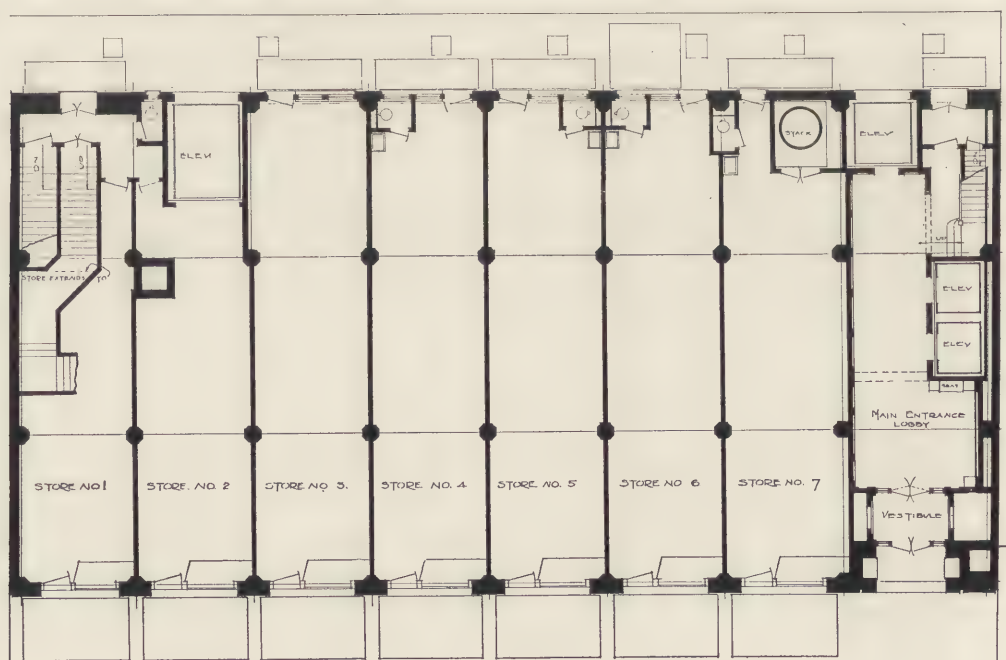
BUILDING OF C. P. KIMBALL & CO., CHICAGO. GEORGE C. NIMMONS, ARCHITECT.



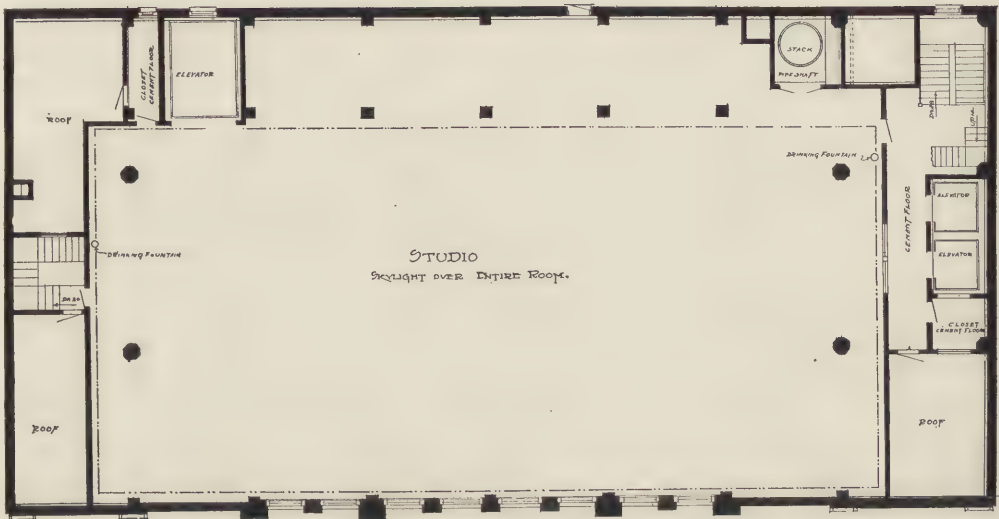
DETAIL OF TOWER—BUILDING OF C. P. KIMBALL &
CO., CHICAGO. GEORGE C. NIMMONS, ARCHITECT.



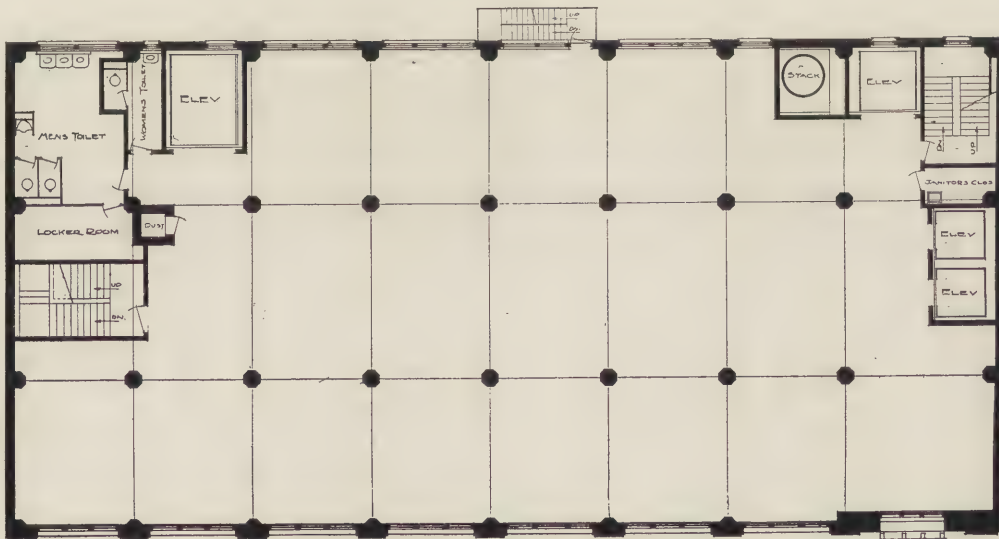
FIRST FLOOR PLAN—BUILDING OF C. P. KIMBALL & CO., CHICAGO.
George C. Nimmons, Architect.



FIRST FLOOR PLAN—FRANKLIN BUILDING, CHICAGO.
Georg C. Nimmons, Architect.



THIRTEENTH FLOOR PLAN—FRANKLIN BUILDING, CHICAGO.
George C. Nimmons, Architect.



SECOND (TYPICAL) FLOOR PLAN—FRANKLIN BUILDING, CHICAGO.
George C. Nimmons, Architect.



DETAIL—FRANKLIN BUILDING, CHICAGO.
George C. Nimmons, Architect.



DETAIL—FRANKLIN BUILDING, CHICAGO.
George C. Nimmons, Architect.



FRANKLIN BUILDING, CHICAGO.
GEORGE C. NIMMONS, ARCHITECT.



DETAIL—FRANKLIN BUILDING, CHICAGO.
GEORGE C. NIMMONS, ARCHITECT.



Completed First Unit.

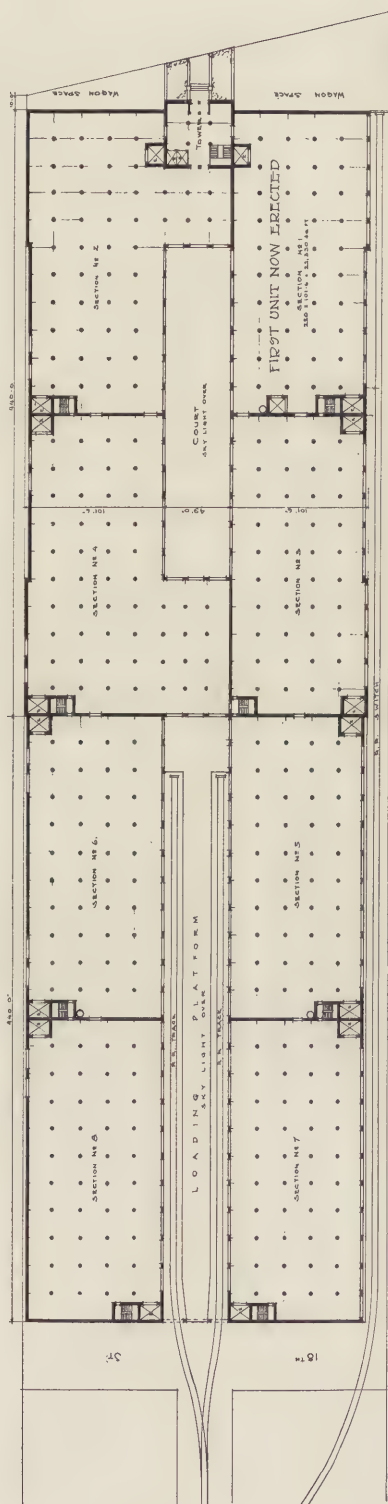


DESIGN OF PLANT FOR SEARS, ROEBUCK & CO., KANSAS CITY, MO.

George C. Nimmons, Architect.



Main Entrance.



Building 3 Stories for Basement

SEARS, ROEBUCK & CO.'S KANSAS CITY BRANCH.

George C. Nimmons, Architect.



SEARS, ROEBUCK & CO.'S PLANT, SEATTLE,
WASH. GEORGE C. NIMMONS, ARCHITECT.



DOORWAY OF A HOUSE AT ST. MARTINS,
PA. HERMAN L. DUHRING, ARCHITECT.



DOORWAY OF A HOUSE AT ST. MARTINS, PA.
Herman L. Duhring, Architect.



— Modern —
Colonial Doorways

By
Beatrice Griswold



Photographs by Jessie Tarbox Beals

MANY of the dwellings built recently in New England cities show to an unusual degree the influence of the Colonial period upon modern architecture. Especially pronounced is the Colonial influence upon the doorway of the house. Classic columns, panels, diamond panes and fanlights have been introduced much as they were in the days of the colonists, and serve as links between the past and the present. Perhaps, after all, no style of entrance so thoroughly harmonizes with the shady avenues of luxuriant trees and green lawns which line the streets of New England towns.

The combination of red brick, white columns and trimmings has been greatly in evidence also in some recently designed buildings in Philadelphia.

Present day convenience must dominate architectural traditions in the construction of modern homes and regard

must be shown for environment and local customs; and the Colonial type of dwelling has been favored because it is easily adapted to modern requirements.

The new doorways present examples not only of New England Colonial but also of the Southern.

From Virginia there is to be seen a type rarely found in the North—a doorway with double Doric columns, extending as high as the second story and supporting an upper balcony. This results in throwing the brick porch below into shadow, so that the white-painted doorway is scarcely discernible until one reaches the top of the flagged walk which ends in the two cement steps leading onto the porch.

The door is of white wood, and has four oblong panels below and two square ones at the top. Above the door is the fanlight and, at the sides, glass panels admitting light into the hall. There is



DOORWAY OF A HOUSE AT WYNNEWOOD, PA.
Lawrence V. Boyd, Architect.

a slight deviation in these glass panes from the usual diamond panes. They are made of round, leaded pieces of glass slightly convex, and have the advantage of providing light while withholding from the visitor a distinct view of the interior.

At either side of the door are narrow columns and above it a small balcony in dark wood. From this a single-pane door leads into the spacious upper hall of the house.

In contrast to this more elaborate style is another doorway, simple almost to the point of severity. This shows the still surviving influence of the New England Puritan. There is in its simplicity something of the individuality of those grim, determined people who first settled in the new provinces. For it was in the territory east of the Alleghanies that the Britons of Puritan type settled. They were craftsmen, weavers and small traders—humble but sturdy folk fleeing from religious or political persecution, and

therefore destined to remain permanently.

With these early settlers, life in the New World was a struggle for bare existence, and their mode of living was necessarily very simple. This was particularly noticeable in the style of their dwellings. No unnecessary ornamentation detracted from the purpose of building for the sake of utility.

Soon after the log cabin era, a very simple and domestic fashion developed in architecture, severity of style being the keynote. This was especially noticeable in the doorway. Though the doors were frequently decorated with flat pilasters and some attention was given to the detail of the cornice, very little other decoration was attempted. The panes of glass were very small because of the difficulty of manufacturing large ones. The colors were always yellow or red, as there were few other pigments.

With the exception of the colored panes, this style has been faithfully re-



DOORWAY OF A HOUSE AT ARDMORE, PA.
Horace Sellers, Architect.

produced in many modern houses. In the illustration on page 247 one sees a flight of stone steps leading up from the brick walk to the doorway. This has no porch, so that it shows off in dazzling whiteness against the red brick of the house. There are pilasters on either side of the door, while the latter has six panels and a fanlight above it.

Technically speaking, this is a revival of the English Classic, and is a heritage which has come down to us through the early colonists, who borrowed it from the mother country and remodeled it to suit their purpose; so that we might well eliminate from our architectural vocabulary the word "Colonial," and substitute "Georgian" in its place.

There are found many examples of the Georgian period in England which, if they were in this country, would be considered purely Colonial. One of these is the Hampton Court Palace, built in 1689. It has all the characteristics peculiar to the Colonial period here—double columns, horizontal cornice with balustrades, and an urn crowning the posts at

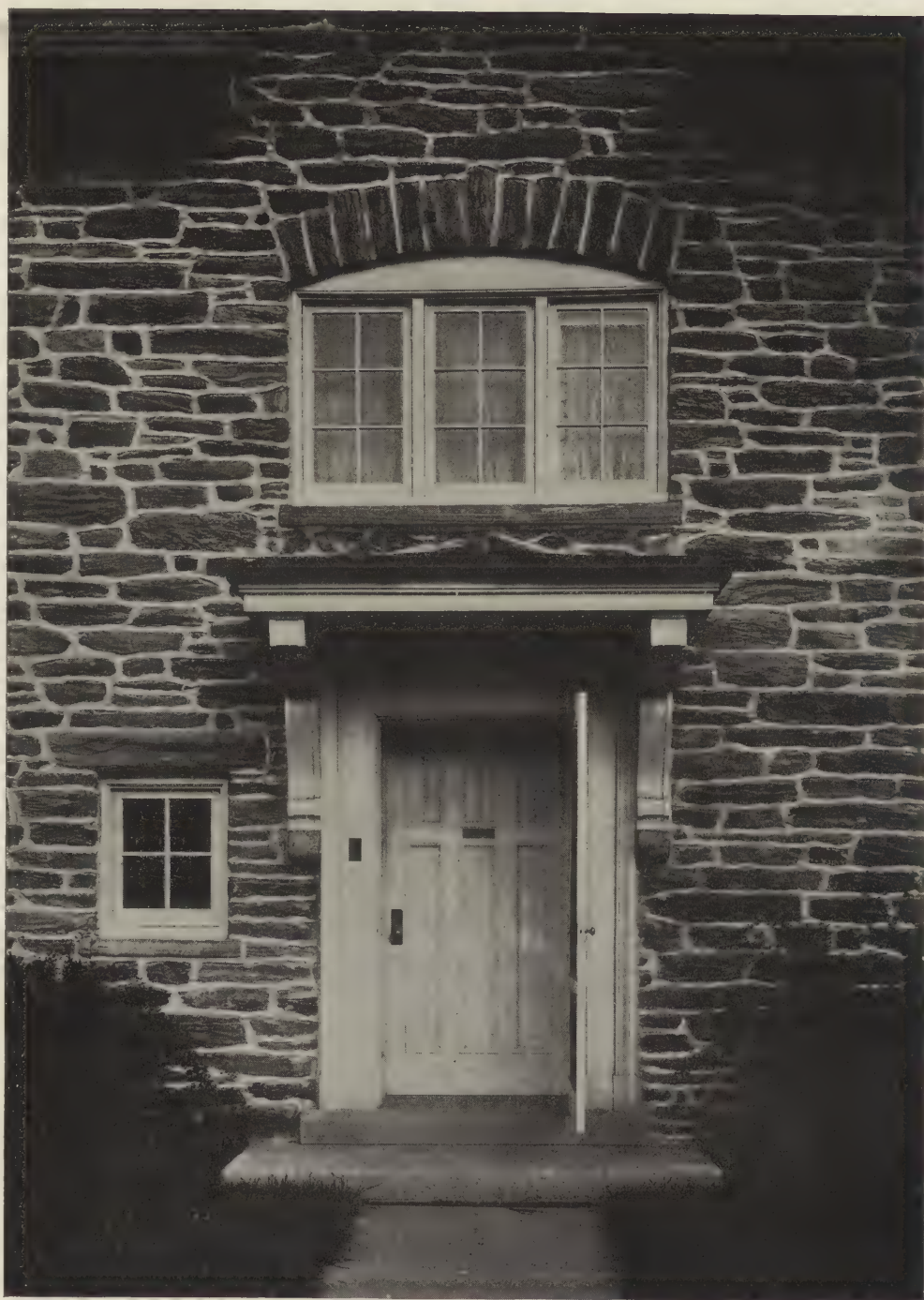
the corners. Somerset House, built in 1776, is another example. It is really a later revival of the Classic which is reflected in our so-called Colonial. In this case the Roman Tuscan, Doric and Corinthian columns are used.

Thus, the real beginning of American architecture was English Renaissance or Georgian, which in turn is a translation of the Italian or the French Renaissance and not the crude translation of the Napoleonic Empire style, for example, which is found in some of the seaboard cities. But as prosperity developed in the new colonies here, the type of house changed in city and country. Even along the old post roads between Boston and New York there are still many examples of a carefully studied type of Renaissance house showing traces of the Italian influence as translated by the home builders of Revolutionary times, with local limitations and variations.

Though there has been nothing passed down to us by the early Dutch settlers like the pure style of New England and Virginia, the so-called Dutch Colonial is



DOORWAY OF A HOUSE
AT MT. AIRY, PA.



DOORWAY OF A HOUSE AT ST. MARTINS,
PA. FRANK MILES DAY, ARCHITECT.



DOORWAY OF A HOUSE AT ST. MARTINS, PA.

quite simple and pleasing and has been found very practical for much of our modern need.

Philadelphia has proved this by the introduction of several dwellings modeled, with a few deviations, after the Dutch Colonial. We are indebted to the Dutch settlers of northern Pennsylvania and Maryland for the type in question. Those early colonists built for themselves farm-houses of stone, with long, sloping roofs. Modern architects of New England have drawn upon this idea for a number of their present day designs.

These buildings in most cases are two stories high, and the doorway is only one step from the brick walk, the upper part of the door swinging in, while the lower half remains closed. This type of door combines unusually well with the fanlights and side glass panels. Overhead is a porch roof, which is rather more modern, as it is supported by projecting beams.

The best of the New England Colonial to-day is to be found in the cities of Massachusetts Bay and in settlements along the shores of Long Island Sound. These communities were built up by the wealthy class who had amassed fortunes through the East India sugar and slave-trading companies, and their properties naturally from father to son.

This influence is also felt in some of the modern doorways. The classic columns which the Puritans discarded are now given a place at the entrance. On either side of the door are the Colonial settles, which are so thoroughly in keeping with a doorway, adding just the note of welcome which one likes to find about the entrance. The door has six panels, a brass knocker and knob. Panels on either side of the door admit light to the hall and there is a fanlight above.

Ornate, yet simple, the Colonial doorway enriches even the plainest facade.

PORTFOLIO
OF CURRENT
ARCHITECTURE



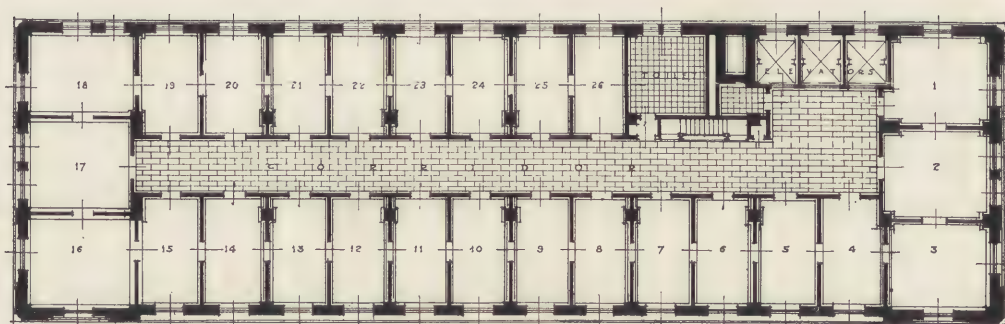
ROSE



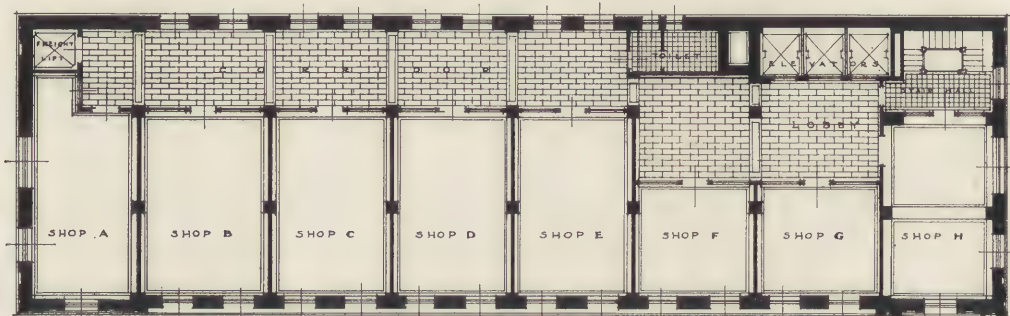
HOLSTON NATIONAL BANK BUILDING, KNOXVILLE,
TENN. JOHN KEVAN PEEBLES, ARCHITECT.



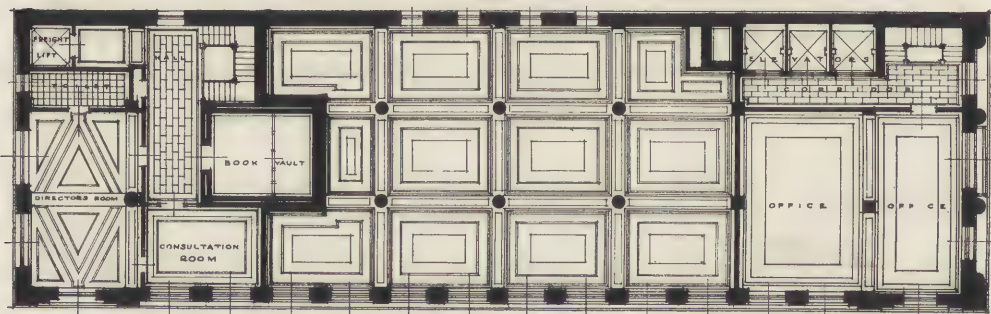
BANKING ROOM—HOLSTON NATIONAL BANK, KNOX-
VILLE, TENN. JOHN KEVAN PEEBLES, ARCHITECT.



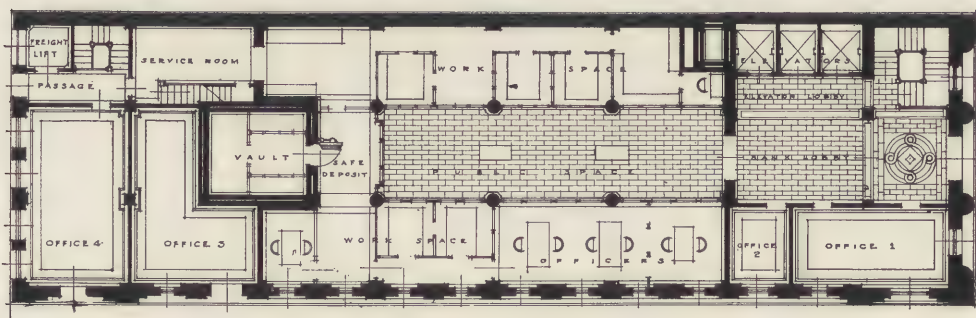
Typical Office Floor.



First Office Floor.



Mezzanine Floor.

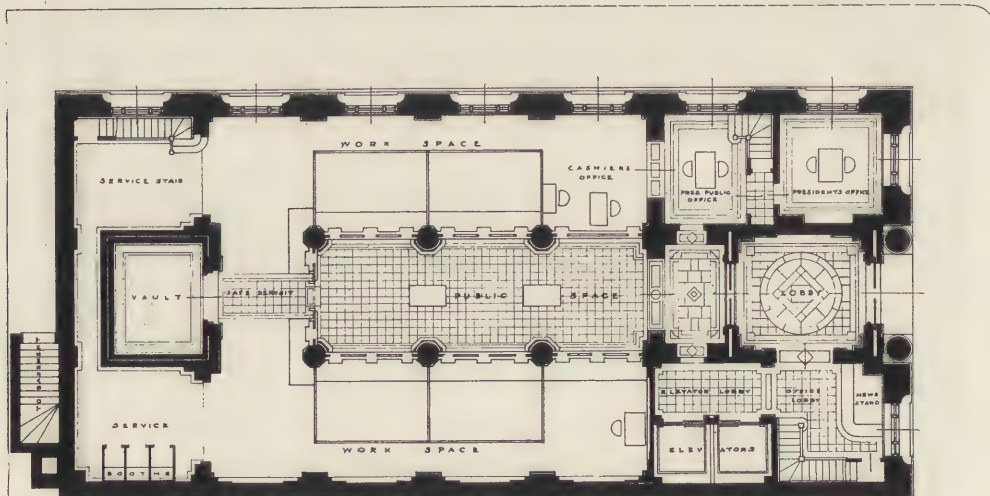
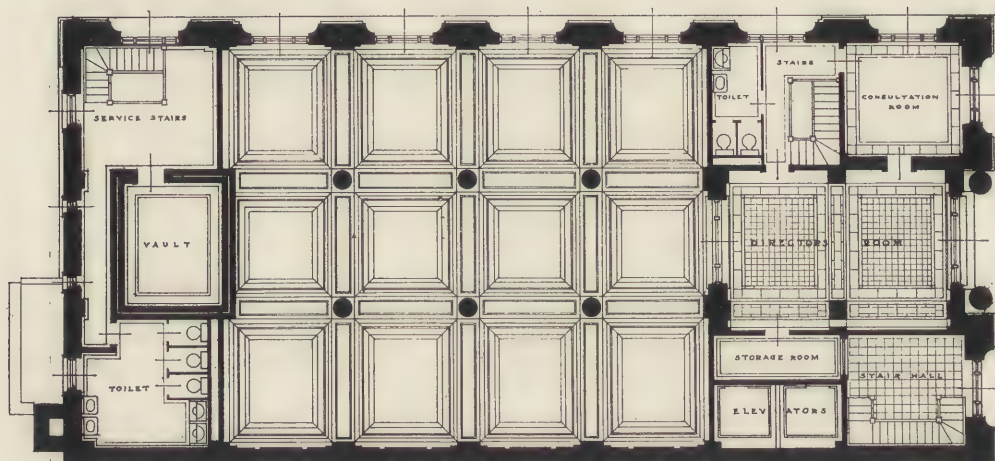


Banking Room Floor.

FLOOR PLANS—HOLSTON NATIONAL BANK BUILDING, KNOXVILLE, TENN.
John Kevan Peebles, Architect.



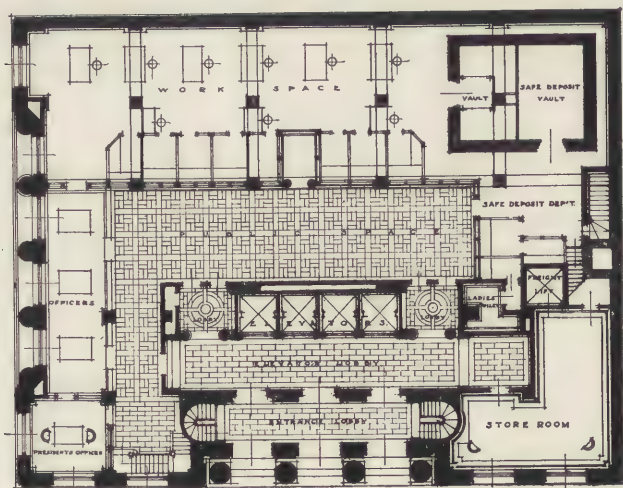
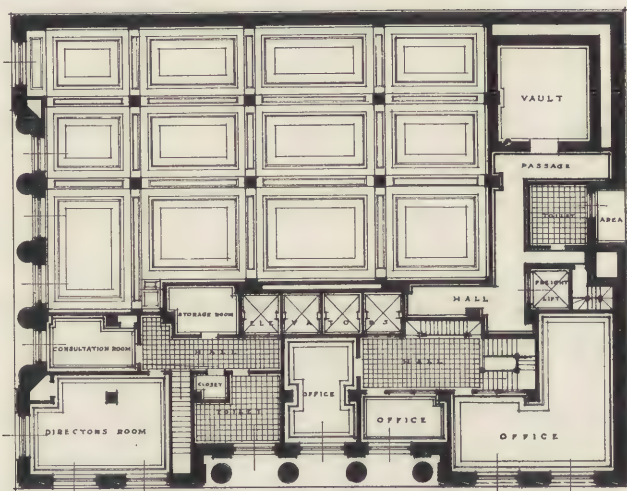
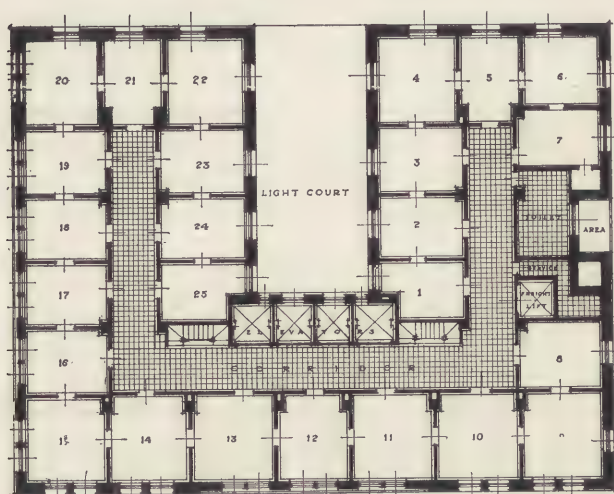
BANKING ROOM—FIRST NATIONAL BANK, ROANOKE,
VA. JOHN KEVAN PEEBLES, ARCHITECT.



FLOOR PLANS—FIRST NATIONAL BANK, ROANOKE, VA. JOHN KEVAN PEEBLES, ARCHITECT.



FIRST NATIONAL BANK, ROANOKE, VA.
JOHN KEVAN PEEBLES, ARCHITECT.



FLOOR PLANS—HEARD NATIONAL BANK BUILDING, JACKSONVILLE, FLA. JOHN KEVAN PEEBLES, ARCHITECT.



HEARD NATIONAL BANK BUILDING, JACKSONVILLE,
FLA. JOHN KEVAN PEEBLES, ARCHITECT.



Glare in Museum Galleries

The Psychological Factor in the Lighting Problem

By Benjamin Ives Gilman



Part I ~ Attic-Light versus Top Light

IN the present day of voluminous scientific publication there is risk in claiming that any large factor in an important question has hitherto mainly escaped consideration. In regard to the problem of lighting, the claim has nevertheless just been made from the standpoint of the lighting engineer; and it is substantiated from the standpoint of the museum official. Professor Ferree writes: "Up to the present time the work on the problem of lighting has been confined almost entirely to the source of light. The goal of the lighting engineer has been to get the maximum output of light for a given expenditure of energy. Until recent years little attention has been given to the problem in its relation to the eye."¹ In like manner the goal of the museum architect has been to get the maximum of light upon walls and cases within general limits of construction. This is the end principally sought by Professor Magnus and Professor Tiede, whose rules have been the chief contributions of the past generation to the theory of lighting picture galleries; and the same direction of inquiry has been followed in the demonstration of lines of equal illumination in a picture zone given by Professor Wagner.² To the problem of museum lighting in its relation to the eye but incidental attention has been devoted.

Yet in museums the psychological element is more than half of the problem of lighting. Sight is a function of two variables: the illumination of the object,

and the condition of the organ; and two everyday facts indicate that the latter is the more important factor for the delicate seeing which museum visiting involves. First: it is well-known that visual discrimination is at its best under a moderate intensity of light. As an object is more and more brilliantly illuminated, our power of seizing its details diminishes instead of increases. The device called the Claude Lorraine glass aims to bring out the beauty of a landscape by reflecting it in a mirror constructed to tone down its brightness. Second: exposure to brilliant light dulls the eye at the time and afterwards for objects moderately illuminated. A white picket fence in the sun is an effective screen to objects which otherwise would be discernible through it; and on going out-doors at night we do not at once see so well as later.

From these two facts the inference is that light openings of almost any dimensions customary in other buildings would suffice for museum purposes, if only the openings themselves and reflections from them were kept out of sight of the visitor, as they are not in other buildings. The more important consideration is not the size of the sources of light, but their position. The crux of the problem lies in protection from glare.

Two positions have hitherto been mainly chosen: that of ordinary windows, giving what is called "side-light"; and that of openings in the ceiling and roof, giving "top-light." Of the first two buildings planned in Europe expressly for museum purposes, one, the Old Museum in Berlin (1824-28), was lighted only by windows; the other, the Old Pinacothek in Munich (1826-36), chiefly by ceiling lights. This method

¹"The Problem of Lighting in its Relation to the Efficiency of the Eye." Professor C. E. Ferree. Paper read before the American Philosophical Society of Philadelphia, April 4, 1913. *Science*, July 17, 1914, N. S., Vol. XL., No. 1020.

²Durm's *Handbuch der Architektur*, IV., 6, 4. Leipzig, 1893, p. 223 f.

was one of two architectural novelties embodied in the Old Pinacothek, the other being its arrangement of rooms along a corridor. The choice of top-light for the main galleries is said to have been dictated by the belief that Greek temples were hypethral, that is, open to the sky; from which it was inferred that Greek taste demanded to see works of art under light from above. It has since become doubtful whether Greek temples were ever hypethral by intention; and the method of their lighting is now admittedly a puzzle. But in spite of the weakening of the classical argument for top-light in galleries of art, strong reasons, chiefly those of economy in space, have maintained it as the standard lighting. With top-light, all four walls of a room may be used for exhibition; and however large the area of a building, it can all be covered by a one-story construction, within a perimeter carried higher.

In a high building, the lower stories are necessarily lighted by windows; and in museums of science, which are commonly of several stories, side-light is apt to predominate. It has also always been used in museums of art for smaller galleries, or cabinets, designed for objects demanding close inspection.

Judged by the canon here adopted—the avoidance of glare—both systems of lighting leave much to be desired for museum purposes. Under top-light, the visitor's eyes are subjected to more or less glare from five sources. These are (1) direct glare from the ceiling opening—conspicuous in long galleries; (2) indirect glare (a) from below—conspicuous as the image of the ceiling opening in desk cases; (b) from above—conspicuous as a shimmer on canvases hung high; (c) from in front—conspicuous as the image of the visitor himself on the glass of upright cases and low hung pictures; (3) indirect glare from sun-spots, or the areas directly lighted by the sun through the ceiling light.³ Dr. Koetschau lately called top-light “a necessary evil”⁴ and Mr. Seager flatly declares “the

principle of having a top or ceiling light is wrong.”⁵

With side-light there is an oppressive glare from the windows, and dazzling reflections on canvases or cases opposite. Of “the accepted idea of a natural history museum, namely, of halls about 65 feet wide, lighted on each side, the windows being as large and the rooms as long and as unimpeded as possible,” Mr. C. C. Brewer writes: “If a person passes along one of these rooms and notes carefully what he has seen or can see from the central aisle, he will find that with desk or table cases he has noticed an enormous area of reflections on glass, and a certain number of small dark objects through the glass. If the room is filled with larger cases of mammals, etc., he has again seen a great many reflections, and in addition the silhouettes of many animals and occasionally the side of some, really almost well lighted.” “It may be that the visitor is really bent on examining the exhibits, and industriously examines the cases in two or three rooms about 200 feet long, by which time, having been occupied in dodging reflections, he is weary, and walks hurriedly up the centre aisle of the remaining rooms, gaining nothing thereby but additional fatigue.”⁶ Most museum visitors will be able to corroborate much of Mr. Brewer's account from their own experience. In fact the normal use of a museum gallery may be said to forbid without appeal the use of low windows—that is, openings in the wall proper—as sources of light. A museum gallery is a place where people are to move about inspecting its contents. In this purpose it differs radically from a living room or an assembly hall, where people are to seat themselves or where seats are placed for them, out of the glare from the windows; and where seeing is not their only or their chief occupation. Every turn that directs a museum visitor toward the window wall of a side-lighted gallery exposes his eyes to a glare that for the

³Amusing examples of the reflections of light openings on desk cases are given in the illustrations, pp. 118-119 of *Museumkunde*, Vol. VII., 1911.

⁴*Museumkunde*, Vol. VII., 1911, p. 85.

⁵S. H. Seager: “The Lighting of Picture Galleries and Museums,” *Journal of the Royal Institute of British Architects*, Vol. XX., 1913, p. 44.

⁶C. C. Brewer: “American Museum Buildings,” *Journal of the Royal Institute of British Architects*, Vol. XX., No. 11, April 12, 1913, p. 388.

time makes good seeing difficult if not impossible. To meet this difficulty it is recommended in the books that the window sill be placed not lower than the visitor's eyes. Although soberly proposed, this remedy is patently ineffective. The range of vision with erect head extends 60 degrees above the horizontal, and a sill at the level of the eye cuts out only that glare which may come from below the horizon, from the ground or buildings. Glare from the sky remains, diminishing as the sill is raised to higher levels. At six feet, to cut off

At their extremes, top-light is vertical and side-light horizontal. One other direction is possible: a diagonal between the two. The light may come, not from the wall proper of the room, nor through the roof of the attic over it, but through the wall of the attic made a part of the room. By extending the attic above the roof of adjoining construction the method becomes a means of lighting interior spaces. The attic becomes a clerestory. The third possible solution of the problem of museum lighting proposes that the sources of light should be win-

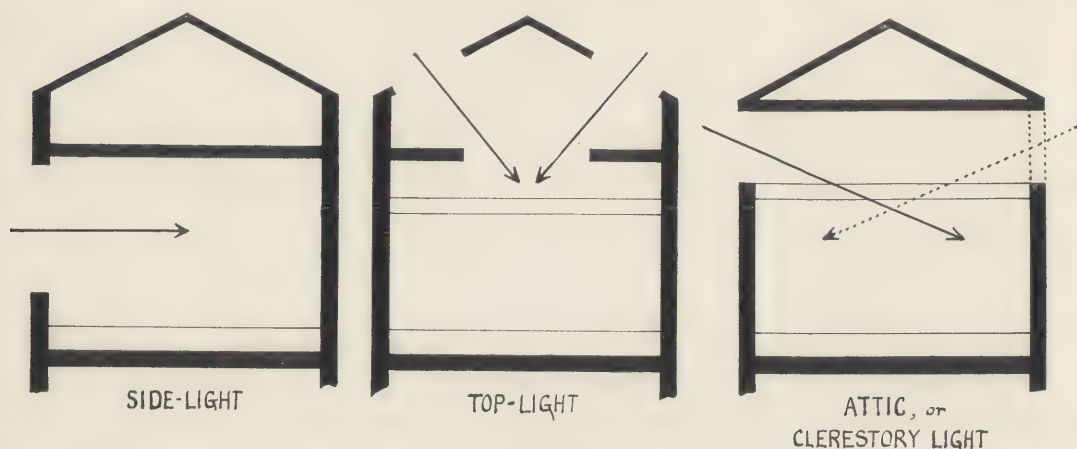


DIAGRAM 1.

any disturbing view of the sky, the visitor must place himself within a few inches of the window wall; at seven feet, within a foot or two; and within greater but still impracticably small distances for any height of sill below the upper limit of his main vision as he walks about inspecting exhibits. In a room of moderate height this range covers at least all of the space below an appropriately placed cornice. Hence no light openings should be placed in the wall proper. The principle of the avoidance of glare demands the abandonment of side-light amusement galleries. According to the Messrs. Papworth, "side-lights are objectionable, except for rooms in which the chief pursuits are those of daily life, such as the apartments provided for the officers, servants, reading-rooms, etc."⁷

dows, but windows with sills at or above the cornice of the room lighted. The three methods are compared in Diagram 1.

Under the name of "Studio" or "Atelier" lighting, the illumination of works of art from high windows is widely acknowledged as the ideal. The method conforms to the canon of Leonardo da Vinci that "the painter should work under a light in which the shadows of objects are equal to their height."⁸ Dr. Waagen advocated high side-light for the Old Museum in Berlin because it was the illumination under which pictures were produced, and the best light to work by would be the best light for seeing.⁹

Professor Brücke mentions the frequent use of "so-called high side-light" and gives reasons for its good suc-

⁷J. W. and W. Papworth: "Museums, Libraries and Picture Galleries." London, 1853, p. 12.

⁸Libro della Pittura. Cap. 85.
⁹Papworth. P. 69.

cess.¹⁰ Professor Wagner describes its advantages for pictures and adds: "The proper lighting for collections of works of art of every kind is the high side-light from one side just recommended for picture galleries, especially when it comes in a northerly direction, as in ateliers. This method of introducing light offers most of the advantages of ceiling light without its disadvantages." "It is particularly favorable when the light-opening, as in ateliers, can be continued above the wall, cutting into the roof and loft, or through the vaulting."¹¹

Studio or atelier light in both the forms here called exterior and interior attic lighting is already illustrated in many museums and almost all instances are singled out for especial praise. True attic lighting—from penetrations in an exterior wall above a cornice—is provided in several galleries of the Vatican. The alcoves of the Belvedere (1770), the Sala a Croce Greca (1780) and the Museo Chiaramonti (1810) all receive light from openings in vaulting; and by both Mr. Clipston Sturgis and Mr. Edmund M. Wheelwright of the Commission of Observation sent to Europe by the Museum of Fine Arts in Boston in 1904 the lighting of all is commended in varying measure.¹² The porticoes of antique sculpture at the Naples Museum, which were apparently loggias when the building fulfilled its original purpose as a cavalry barrack (1587), receive a like and very advantageous light from windows high in the walled-up arches (1790). An adaptation of attic light to special conditions of reconstruction was adopted by Professor Treu (1891) for the principal galleries of casts at the Albertinum in Dresden. Here an interior room receives its light from the roof through an opening on one side of a vaulted ceiling. Professor Treu found the results notably satisfactory. Both the dazzling of the visitor's eyes produced by lower light and the unrelieved shadows in the sculpture produced

by light from overhead were avoided.¹³ Mr. Brewer found Blackstone Hall in the Chicago Art Institute, lighted from windows on one side at 15 feet from the floor, "one of the best lit that I saw."¹⁴

To most people the Sistine Chapel (built in 1473; 157 feet long, 52 wide, 59 high) is rather a museum gallery than a church; and it is not impossible that the architect had in mind the effect of the paintings filling the lower part of its walls. The lighting is by clerestory windows running above a gallery at some 35 feet from the floor; and has been called by competent observers the most beautiful light for pictures they had ever seen. Several buildings erected expressly for museum purposes contain halls lighted from a clerestory. The west range of the Smithsonian Institution building at Washington (1847-55) consisting of a nave with clerestory and aisles, one lighted by windows, was originally planned as a reading-room, but since 1866 has been used for collections of natural history. The main hall of the Kelvingrove Museum at Glasgow (built 1893-1901), 137 feet long, 62 wide, 88 high, is another example. Sir W. Armstrong has called the ground floor plan of this museum "more successful than anything else of the same kind in Europe." The gallery containing the zoological collection of the museum at Perth, West Australia (1895), is reported as "admirably lighted by clerestory windows."¹⁵ The central "Basilica" of the Kaiser Friedrich Museum in Berlin (1898-1904) receives its light from a clerestory. At the Museum of Fine Arts in Boston, the Tapestry Gallery in the newly built Evans Wing is admirably lighted from windows on both sides above a cornice 27 feet from the floor. Of the central hall of the Decorative Arts Wing of the Metropolitan Museum of Art in New York (1910), which is also lighted by clerestory windows, Mr. Brewer writes: "If only this clerestory

¹⁰Ernst Brücke: "Bruchstücke aus der Theorie der bildenden Künste," Leipzig, 1877, p. 175.

¹¹Durm's Handbuch der Architektur, IV., 6, 4, p. 257.

¹²Communications to the Trustees, III., Boston, 1905. P. 35.

¹³G. Treu: "Die Sammlung der Abgüsse im Albertinum zu Dresden." *Archaeologischer Anzeiger*: Beiblatt zum Jahrbuch des Archaeologischen Instituts. I., 1891.

¹⁴Brewer, p. 381.

¹⁵Museums Journal. Vol. III., No. 6, Dec., 1903, p. 179.

lighting could be adapted to lower rooms, we should probably arrive somewhere near to the ideal of a perfect picture gallery."¹⁶

These approving judgments upon the general method of introducing light above a cornice, and upon individual galleries, may be taken to refer chiefly to the effect of this illumination in bringing out the character of objects. It remains to go further into the question of the comparative merits of top-light and attic light in the matter of the avoidance of glare in the eyes of spectators.

In Diagrams 3 to 17 four galleries are compared, three top-lighted and one attic-lighted. All are supposed 34 feet square. Square galleries are chosen because they present the best conditions in respect to glare under both systems of lighting. For attic light, oblong galleries are somewhat inferior, and for top-light markedly so. The attic-lighted gallery has a height equal to its other dimensions, with a cornice at 21 feet from the floor. This is the average height of the picture zone in fourteen galleries tabulated by Professor Wagner.¹⁷ The window above is 11 feet high and 13 feet broad, in the centre of the attic wall and reaching to the ceiling. The height of one of the top-lighted galleries—24 feet—is to its other dimensions approximately in the proportion recommended by Magnus, namely, 7.85 to 11, or nearly 5 to 7. This, or a smaller ratio, is not infrequent in American galleries. The height of the second, 28 feet, approximately illustrates the proportion recommended by Tiede, namely, 75 to 91, or nearly 5 to 6.¹⁸ The third is a cube like the attic-lighted gallery, according to the rule stated to Professor Wagner by Mr. R. Redgrave, formerly of the South Kensington Museum. Mr. Redgrave's opinion was that the height of a gallery to the ceiling light should be equal to its width;

this proportion avoiding reflections, if the width of the light is one-half that of the gallery.¹⁹ This is the width here adopted for the ceiling light (Magnus $\frac{1}{3}$, Tiede $\frac{1}{2}$, Weissmann independently $\frac{1}{2}$; ²⁰ in practice often greater) its area being one-quarter that of the floor of the room. In the group of galleries cited by Professor Wagner, the relative area varies from 17 to 50 per cent.²¹ As the larger the ceiling light the greater the glare from it, a low mean between these extremes presents the case favorably for top-light.

Although the area of the window is but an eighth the floor area of the room, it would appear that the illumination from it would be not far from equal to that from the ceiling light. The restriction of the glazing of the roof to the slopes, as shown in Diagram 1, now very generally recognized as essential to good top-lighting, materially cuts down the area of the ceiling light through which light in any part of the room is received from the sky. Moreover, light from a ceiling-opening passes through two layers of glass, losing 40 per cent. in the process, according to the estimate recorded by Professor Wagner, and from the window through but one.²² Space for another window of half the breadth of the central one and on either side of it is indicated in the paneling of the attic shown in the diagrams; but experience goes to prove that the increase would very seldom indeed be needed. According to Professor Wagner, the painter Kaulbach and others found the gallery constructed on Professor Tiede's measurements at times almost too much lighted.²³ In the large top-lighted galleries of the Brera at Milan the light comes through one layer of glass, there being no ceiling light. The area of the opening in three of the galleries is but a sixteenth the floor area of the room; yet Mr. Sturgis remarks: "Seen under average (not really dark) winter conditions, there is apparently ample light at all times."²⁴

¹⁶Brewer, p. 379. The lighting in the Rotunda of the National Museum at Washington from lunettes at 62 feet from the floor and a central skylight in the dome at 125 feet is compared favorably by Mr. Brewer with that in other rooms. "The Rotunda is much more restfully though amply lighted, but it seemed the central skylight might even here have been omitted to advantage;" p. 392.

¹⁷Durm's Handbuch der Architektur, IV., 6, 4, p. 237.

¹⁸In the first building of the Museum of Fine Arts in Boston the lower picture galleries were 24 feet high, the higher 28.

¹⁹Durm's Handbuch der Architektur, IV., 6, 4, p. 237.

²⁰Weissmann: "Gallery Building," Journal of the Royal Institute of British Architects, Vol. XIV., 3rd series, 3rd quarterly part, No. 11-15, 1907.

²¹Durm's Handbuch der Architektur, IV., 6, 4, p. 237.

²²Idem, p. 238.

²³Idem, p. 229.

²⁴Communications to the Trustees, III. The Museum Commission in Europe, Boston, 1905, p. 26.

For convenience of inspection, the results under given conditions for all four galleries are presented at once in Diagrams 5 to 7. No account is taken of the arrangement of the skylights in the roof. Were the opaque zenith shown in Diagram 1 provided, it would cut out a portion of the patches of glare in-

terpart of the object.²⁶ The study of reflections is not without its difficulties, and the diagram is here introduced to make the matter plain. A puzzling passage in a recent essay by a well-known museum architect reads: "If the dark space around the ceiling is 5 feet wide, only the roof openings opposite can light

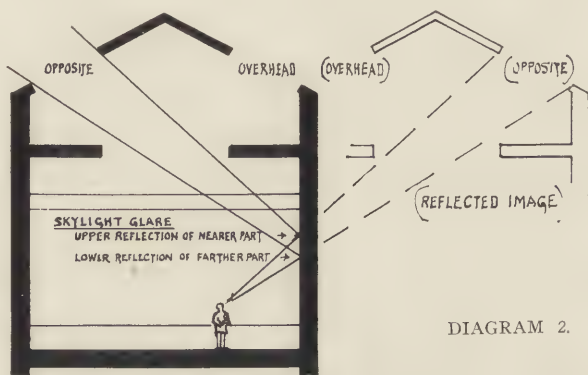


DIAGRAM 2.

indicated in the diagrams, leaving a strip on one or other or both edges.

Semi-transparent diffusing curtains or screens capable of being drawn over light-openings to exclude direct sun are a necessity of any system of museum lighting. With top-light these are horizontal or inclined, and are generally placed and controlled in the loft above the gallery. With a window they are hung perpendicularly like domestic curtains, and may be controlled from the room. The difference in convenience in favor of window curtains, due to the inaccessibility and exposure to dust of skylight curtains, can hardly be appreciated by any one who has not to do with museum house-keeping.²⁵

The method of determining the boundaries of the reflections from the light openings is illustrated in Diagram 2. The angle of reflection being equal to the angle of incidence, the image of an object before a plane mirror is at the same distance behind it, of the same magnitude, and equally inclined to it; in other words, is the symmetric coun-

terpart of the object.²⁶ The study of reflections is not without its difficulties, and the diagram is here introduced to make the matter plain. A puzzling passage in a recent essay by a well-known museum architect reads: "If the dark space around the ceiling is 5 feet wide, only the roof openings opposite can light

the picture, and the light from the openings on the same side, which causes the annoying glimmering of the picture surfaces, is completely shut out." The diagram shows that the lower and more obtrusive part of the glare on a canvas from a ceiling light is due to rays from the opposite, not the overhead opening. Mr. Sturgis remarks that at the Thomy Thiéry Gallery of the Louvre it was sought to exclude the influence of the opposite top-light by opening the ceiling directly on the pictures instead of at the centre, but without any marked success. "Clearly the preponderance of light came from the opening opposite and not from that directly above." "The freedom from reflections on the pictures was due to the fact that they were hung low and not to the fact that light was directly over them."²⁷

²⁶It is noteworthy that Dante states the law of reflection as exactly as it could be stated by a physicist:

"Come quando dall' acqua o dallo specchio
Salta lo raggio all' opposta parte
Salendo su per lo modo parecchio
A quel che scende, e tanto si diparte
Dal cader della pietra in egual tratta
Si come mostra esperienza ed arte."

—Purgatorio XV., 16-21.

"When a ray leaps up in the opposite direction from water or a mirror, it rises in the same way that it falls, departing equally from the line of a falling body (the perpendicular) as observation and theory show."

²⁷Communications to the Trustees III. The Museum Commission in Europe, Boston, 1905, p. 28.

²⁵In the side-lighted room especially built at the Rijks Museum at Amsterdam for Rembrandt's "Night Watch," curtains of tracing linen are hung before the window. Report of the Royal Dutch Commission, quoted in Communications to the Trustees of the Museum of Fine Arts, Boston. II., Dec., 1904, p. 60.

In the present comparison between top-light and attic light in the matter of glare the five sources already mentioned will be considered in order.

(1.) The comparison for direct glare is indicated in the black circles of Diagram 3 representing the top-lighted gal-

floor area of the 34 foot gallery, to an inconsiderable fraction of the 24-foot gallery. Elsewhere in the 34-foot top-lighted gallery the vertical angle subtended by the ceiling light increases to a maximum, at the walls, of about half the horizontal angle. In the attic-

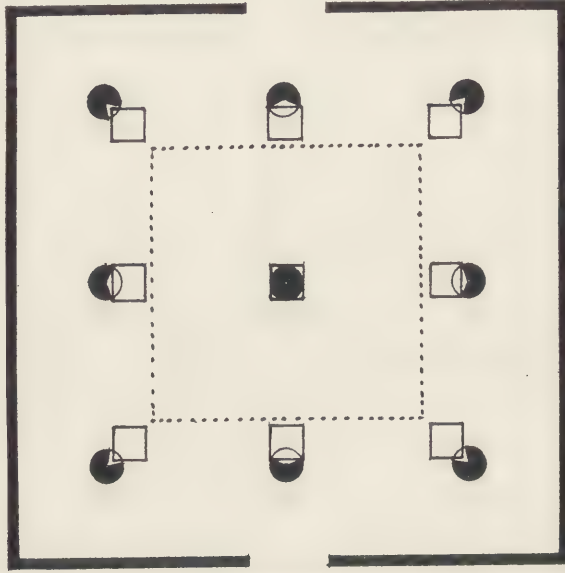


DIAGRAM 3.
Top Light.

lery 34 feet in height, and of Diagram 4 representing the attic-lighted gallery of the same height. The highest top-lighted gallery is chosen because it presents the case for top-light most favorably. The height of the visitor's eye is taken throughout the diagrams at 5 feet. In Diagrams 3 and 4 the floor is divided into nine equal sections, and the visitor is supposed to be at the centre of each.

The white sectors represent the horizontal angle subtended by the ceiling light or window, and indicate how far the visitor must turn from the wall before beginning to receive direct glare from the source of light. In the top-lighted rooms there would be a space in the centre, in which the ceiling light would be entirely out of the maximum range of vision with erect head—about 60 degrees altitude—in whatever direction the glance was turned. This area would vary, from about a ninth of the

lighted gallery, the window would be concealed in like manner by the brow of a visitor standing at any point within about a third of the area of the room—that nearest the window wall—and would be above the ordinary range of convenient seeing at all practicable points. In this gallery the vertical angle subtended by the window is about three-quarters the horizontal angle in the outer positions indicated, and about half in the central positions.

These various conditions express the general fact that from the floor of a room an area central on the ceiling is seen either wholly without foreshortening (at the centre) or somewhat foreshortened (at the walls); while an area at the top of a wall is either seen equally foreshortened (at the opposite wall) or is entirely invisible by foreshortening (at the window wall). One point favors top-light. The ceiling light would at

no point descend so low—about 30 degrees—into the maximum field of vision as would the window seen from near the opposite wall, although nearly as low in a 24-foot gallery seen from one corner. Three points favor attic-light. The area totally exempt from

change in the standpoint of the observer. The reflection of the ceiling-light is much the larger, both on account of its larger source and its shorter path, and would be larger still in the 28 and 24-foot galleries. Further, it is more or less directly beneath the visitor's eyes,

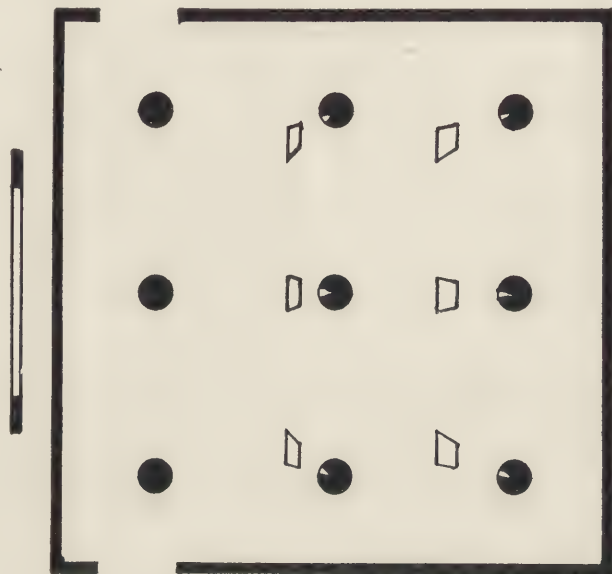


DIAGRAM 4.
Attic Light.

direct glare is much larger. Moreover, the sectors show that the visitor has a larger freedom of turning without exposure to direct glare. Finally, the exempt area in a top-lighted gallery being in the centre, no position of the doorway will spare the visitor direct glare from the source of light on entering; while in an attic-lighted room the doorway may be placed in the exempt area—that is, near the window wall—as shown in Diagram 4, so that the visitor may begin the inspection of the room undazzled. On the whole, the comparison in the matter of direct glare may be taken to incline noticeably, though not decisively, in favor of attic-light.

(2a.) The rectangles in Diagram 3 and the trapezoids in Diagram 4 represent the reflection of the ceiling-light and the window on the floor of the gallery. These reflections change in position and more or less in shape for every

instead of several feet away, as in the attic-lighted room. The disturbance from this source is negligible where, as in most galleries, the floor is covered with some dark, non-reflecting material; but the position of the figures reveals the cause of one of the most common complaints against top-light in museums. Drawn somewhat closer to the visitor's position and made somewhat smaller, the rectangles and trapezoids would represent also the reflections from the surfaces of horizontal glass cases: so-called desk, or table cases.²⁸ Diagram 3 shows that with top-light these reflections would lie upon the glass almost or quite directly over the object looked at, effectively concealing it except in so far as the visitor's head and body intervene. With attic-light they would never lie

²⁸S. H. Seager, p. 52. "The most annoying effect of all is perhaps to be seen when horizontal glass specimen cases are placed in a strongly top-lighted room."

under the visitor's eyes, but always on one side, from a few feet away when large to a few inches when small, in the

need of window-light for desk cases that everyone has felt who has ever sought to make out their contents under light from the ceiling. In the matter of reflections from below, the comparison results decisively in favor of the attic light.

(2b.) Diagrams 5 to 7 represent reflections on the walls of the four galleries, and on canvases hung perpendicularly, as seen from different standpoints on the floor, and indicate also what the reflections would be from the glass of cases. These reflections fall lower as the observer approaches the reflecting surface and rise higher as he recedes from it.

From incidental references in the books and from experience, it may be assumed that the most restful seeing demands that a line drawn from the eye to the top of the object should form with the horizontal an angle not greater than about 30 degrees. Professor Magnus placed the top of a picture zone in a gallery 36 feet (11 m.) wide at 19 feet (5.95 m.) from the floor; and Professor Tiede, in a gallery 30 feet (9.1 m.) wide, at 18 feet (5.65 m.). The latter remarks that this height requires only a moderate raising of the glance.²⁹ Professor Treu recommends about this height (5.5 m.) for the cornice of a sculpture gallery.³⁰ From the centre of either the Magnus or the Tiede Gallery, 18 or 15 feet from the wall, the angle to the top of the picture zone would be about 40 degrees; but taking Mr. Papworth's opinion that the largest pictures should not be seen at a less distance than 25 feet, or approximately three-quarters across either gallery, the angle would reduce to

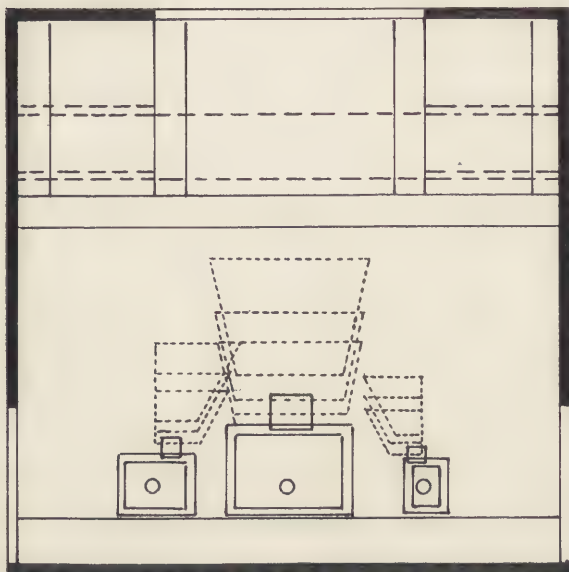


DIAGRAM 5.
Opposite wall; from nearby.

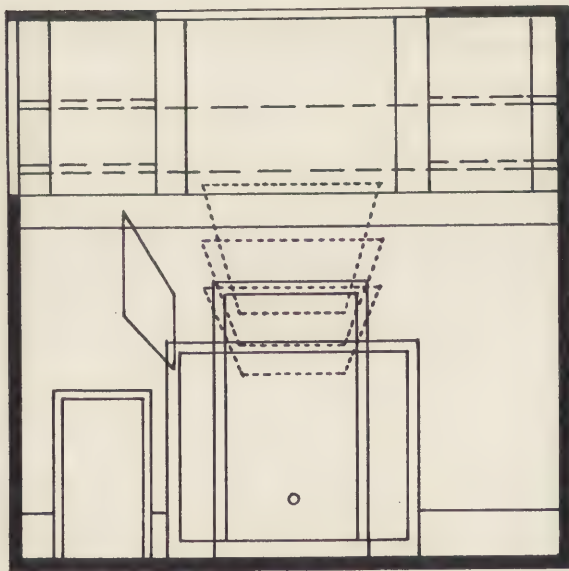


DIAGRAM 6.
Transverse wall; from centre of gallery.

direction toward the window, either diagonally in front or on either hand. The diagram makes plain the imperative

²⁹A. Tiede. "Museumsbaukunde." Abschnitt I from the "Baukunde des Architekten." II., Band, 2 Teil, Berlin, 1898, p. 73.

³⁰G. Treu: "Die Sammlung der Abgüsse im Albertinum zu Dresden." 1891.

about 30 degrees.³¹ According to this criterion, to see an object reaching to 6 feet from the floor—for example, a picture 3 feet high hung over a baseboard, or dado, of the same height—the spectator might stand as near as 3 feet, a distance which may be regarded as the limit of approach, except for the scrutiny of particular features. If the top of the object reached to 8 feet from the floor—for example, a picture 5 feet in height—7 or 8 feet would be the limit of approach. If to 15 feet—for example, a picture 12 feet high—the limit would be 18 feet. If to 20 feet, the limit would be 25 feet.

Pictures reaching to approximately these heights are shown in Diagrams 5 to 7, seen from approximately these distances. Diagram 5 shows by dotted lines the reflections of the ceiling lights in the three top-lighted galleries, on any wall, and by full lines the reflections of the window in the attic-lighted room on the opposite wall, as they would appear to a spectator three, four and eight feet away. Under the reflections on the right, seen at three feet away, the "Mona Lisa" (31 inches high, 20 inches broad, or .77 m. by .53 m.) is hung. Under the reflections on the left, seen at four feet, the picture is "The Fighting Téméraire" of Turner (35½ inches high by 47½ inches broad). The central picture seen at 8 feet away is "The Entombment" by Titian, at the Louvre (4 feet 10 inches high, by 7 feet broad; or 1.48 m. by 2.15 m.). The reflections from the window are above the canvases, and those from the ceiling-lights are at greater or less distances above the frames.

It proves on investigation that larger pictures would not escape reflections from a window opposite unless the spectator were to place himself beyond the best distance for seeing. The case is otherwise for the ceiling-lights represented. The limit of height to which a

canvas could be raised without receiving reflections from above, supposing the spectator to retreat until he saw the top at an angle of 30 degrees—that is, within the best seeing range—would, for the 24 foot light, be 9 feet 6 inches from the floor, the distance being 8 feet; for the 28 foot light, 13 feet, the distance being 14 feet; and for the 34 foot light, 19 feet, the distance being 25 feet. Supposing 19 feet to be about the height of the picture zone, this last result confirms Mr. Redgrave's assertion that in a top-lighted gallery as high as it is broad,

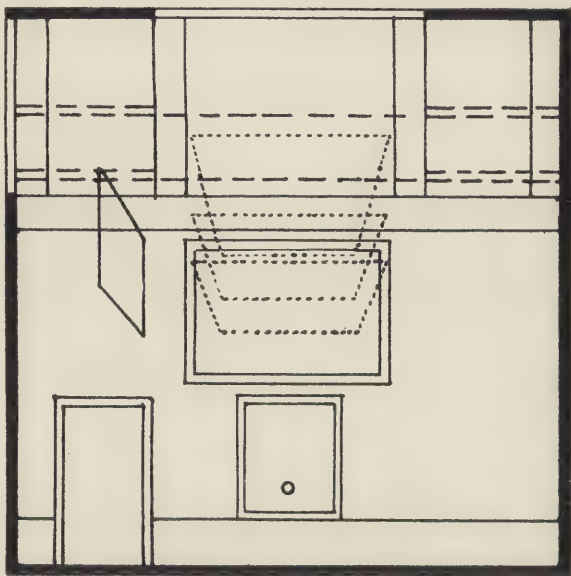


DIAGRAM 7.

Transverse wall; from three-quarters across gallery.

and with a ceiling-light half its breadth, there are no reflections on the pictures; supposing, it must be added, that the spectator always views them at the distances at which they can most comfortably be seen as wholes.

The establishment of a limit of five feet in height, or eight from the floor, for pictures shown on the opposite wall of the attic-lighted room, is a point against attic-light to be regarded as more than counter-balancing the very much larger area on the wall occupied by the glare from the ceiling light. Yet measurements of 200 pictures taken at random from the chief galleries in Europe

³¹Papworth, p. 54.

and America indicate that two-thirds of museum pictures are below five feet in height. Under the attic light proposed the opposite wall is hence suitable not alone for small pictures, but for a large majority of all pictures. Dr. Salin is reported to have said that objects over eight feet from the floor cannot be looked at for any length of time without undue fatigue.³² The remark doubtless referred chiefly to case objects; but it has its application also to pictures. It should not be forgotten further that the whole upper part of this opposite wall would be a superb position in which to show tapestries or any other objects, artistic or scientific, which were devoid of sheen. The pictures or other objects shown below would also possess an *éclat* of coloring unknown in top-lighted galleries.

The tilting of a canvas raises the reflections upon it, and is the expedient customarily resorted to when sheen upon it is burdensome. These diagrams do not take into account any inclination of the canvases from the perpendicular, both because the practicable amount is uncertain, and because the larger the picture the more undignified does any considerable tilting become. It may be recalled that in the Vatican Gallery large pictures opposite low side light are placed on hinges, and the visitor who wishes to see them exempt from all glare is free to move them as he pleases. This method has the advantage over tipping that it is perfectly effective and may be used with the largest canvases without interfering with the stateliness of their effect. The Sistine Madonna is permanently installed at an angle to the window lighting it.

On cases, when seen as is customary from perhaps three feet away, the reflection from the attic light opposite would still fall 18 inches above the observer's eyes; and were he to stand off to double that distance or beyond, it would fall wholly above a case of the usual height of 7 feet 6 inches or 8 feet.

On the whole, the comparison for reflections on the opposite wall may be

said to result unfavorably to attic light, although under the conditions here proposed its handicap would in all probability seldom or never be noticed, the freedom of installation it allows being in general amply sufficient.

A square attic-lighted room differs from a square top-lighted gallery in that the conditions of illumination differ from wall to wall. In the top-lighted gallery they are identical. Their different lighting from a window is a point of signal advantage in museum economy. Objects belonging in the same gallery on account of their similarity of origin or nature are never of the same rank or importance, nor are they all seen at their best under identical conditions of illumination. The managers of exhibitions of art in particular willingly acknowledge that opportunities to keep some objects back, put others forward, and otherwise to adapt their lighting to their character, are most welcome.

A comparison of the identical conditions present on the transverse walls of the three top-lighted galleries with the changed conditions on those of the attic-lighted room results decisively in favor of attic-light, as Diagrams 6 and 7 show. Diagram 6 represents the reflections on a transverse wall as they would appear to a spectator seated at the centre of the gallery, in a position to inspect at leisure its most important exhibits. It is to be noted that when seated in this position in the attic-lighted gallery the visitor would be unable to see any of the window in the next gallery, and would have in view only its least illuminated wall. The broader picture indicated is the "Night-Watch" of Rembrandt (11 feet 9 inches high; 14 feet 3 inches broad; or 3.59 m. by 4.35 m.) installed with the canvas at a foot from the floor, as it is now placed in the new room especially built for it at the Ryksmuseum at Amsterdam. For this new room dimensions have been chosen not far from those of the gallery here proposed. It is five feet narrower on the picture wall, and two feet deeper in front of the picture, and is lighted by a window on the left, with a sill at about 7 feet 6 inches from the floor. To an

³²Martin Mayer: "Betrachtung eines Bautachnikers über die Einrichtung von Schausammlungen." *Museumskunde*, VI., 1910, p. 161.

observer in the position indicated the 24 foot ceiling light gives reflections on the canvas, but none of the other three sources. The higher picture represented is Giovanni Bellini's "Madonna di San Giobbe" at Venice (15 feet 3 inches high by 8 feet 3 inches broad; or 4.66 m. by 2.52 m.) installed likewise at a foot from the floor. The supposed observer's angle of vision to the top is about 38 degrees. This inclination may be said to translate into museum terms the very much greater angle at which the painter planned the picture should be seen from its position on an altar. Here the attic light alone gives no reflection on the canvas. Even the 34 foot top-light covers the top of the picture with sheen, and the lower lights obliterate a good part of it. This result contravenes the often expressed opinion that overhead lighting is essential for large pictures, such as Italian altar pieces, side lighting being suitable only for small pictures. The truth appears to be more nearly the contrary. Window lighting is indispensable for the largest, as well as best for the smallest and those of moderate size. The superior convenience of top-light is shown only in the case of a residue of large but not the largest dimensions.

The imperative necessity of window light for pictures reaching very high from the floor is emphasized in Diagram 7, representing the reflection from ceiling lights and window on the transverse wall, as seen from a position three-quarters across the gallery, or about 25 feet from the wall. From this point the top of the upper canvas represented makes the normal angle of 30 degrees with the horizontal. The picture is a "Boar Hunt" by Snyder, in the Louvre (7 feet 6 inches high by 11 feet 6 inches wide; or 2.32 m. by 3.48 m.). The picture below is Boucher's "Venus and Vulcan" (6 feet 9 inches high by 5 feet 6 inches wide; or 2.05 m. by 1.70 m.) also in the Louvre. All of the ceiling reflections enter the upper picture, that from the 34 foot light covering a minimal strip, and those from the 28 and 24 foot lights masking the picture more or less completely. Under the 24 foot ceiling it would be impossible to see the

picture free of glare even from the opposite wall. As before, the reflection from the window is wholly out of range of the canvas. In general, the comparison indicates that on the transverse wall a picture in any part of the zone would be free of any reflection from the window when seen from an appropriate position, while all the upper half of the zone seen from appropriate positions is exposed to reflections from some or all of the ceiling lights.

In the top-lighted galleries these same conditions are repeated on the remaining wall of the room, that in which the window of the attic-lighted room is placed. In this room no light falls directly on the window wall, and there would hence be no reflections at all on it from the window. All this illumination comes indirectly from the interior of the room, and especially from the opposite attic wall, which receives the light of widest angle from the window. In this direction of maximum light, attic lighting differs radically and for the good from either top or side lighting. Under top-light, the objects most strongly illuminated are the floor and the visitors upon it; under side-light, the opposite exhibition wall and the objects and visitors it strikes on the way. With an attic window the light of widest angle is received where it can be put to the best use. The attic wall is not used for exhibition, and being above the visitor's normal range of vision—that is, 30 degrees of altitude—in all practicable parts of the gallery, may be given the reflecting surface which will best diffuse light through the room. Attic lighting offers a favorable opportunity for the use of indirect illumination from a reflecting surface, whose present neglect after its successful employment by old Italian architects has been lately regretted by Mr. Hedley.³³

A window wall is commonly deemed wholly useless for exhibition purposes, and the resulting loss of exhibition space is one of the chief objections made to lighting museum galleries by windows. It is to be admitted that the objection

³³C. Hedley: "Report on Museum Administration in the United States." Australian Museum, Sydney. Miscellaneous Series. VIII, Sydney, 1913, p. 31.

holds against sidelight, since in this case the wall and the window in it are within the range of vision together. But the simple experiment of screening the eyes from the window and the floor before it, as well as may be, with any object held in the hand, offers convincing proof that it is not wholly and may not be mainly the lack of sufficient illumination on a window wall that makes objects invisible on it, but the deadened condition of the sight produced by dazzling from the window. This deadened condition is forestalled in the attic-lighted room here proposed. The visitor would enter the room with his eyes protected from any glare from the light source, and thereafter would continue to be protected from it. Moreover, the window wall

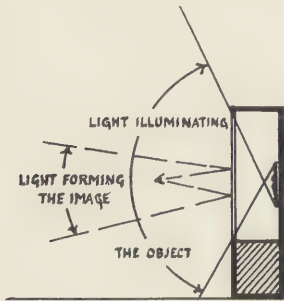


DIAGRAM 8.

would be lighted up by diffusion from a surface above the ordinary range of vision—namely, the highly illuminated and light colored attic—as it never is in a side-lighted gallery. It is to be fairly expected that under these circumstances the “seeing” on the window wall would compare well with that in other parts of the room. Both observation and experiment in this direction are very greatly to be desired.³⁴

The total result of the comparison for reflections of the sources of light on pictures or upright cases bears strongly in favor of attic light. Only the transverse walls of the attic-lighted room offer high objects complete exemption from such reflections. Its window wall and opposite wall afford all needed freedom of installation; exempt from glare

in the one instance for objects of the prevailing height, and in the other at all heights for the objects of minor importance of which every gallery has its share.

(2c.) The comparison for reflections from brightly lighted objects within the gallery, including the visitor himself—or, as they may be called mediate reflections—again favors attic light. The result in this case is decisive, owing to the difference just noted between the areas of maximal illumination under the two systems. In looking at a museum object through glass a more or less visible image of a fragment of the scene before the glass overlies the object. The mass of light reflected from the glass and forming the image comes to the eye from that fragment of the room and its contents seen in the image; while the mass of light reflected from the object and revealing it comes to the eye in general from other parts as well. What can be seen on the glass over the object differs from what could be seen through the glass from the object. This appears in Diagram 8. But since glass reflects a larger percentage of light than objects do,³⁵ unless some part of the room visible through the glass from the object is more intensely lighted than that fragment of it seen on the glass over the object, the image will tend to confuse the view of the object. Speaking broadly, the image must not include the most ‘brilliantly lighted part of the room. This condition is fulfilled in the attic-lighted room and violated in the top-lighted galleries. For the image in both alike will consist mainly of the lower walls of the room, with the floor and the objects on it, including the visitor himself. Under attic light this is less brilliantly lighted than the upper part of the room; under ceiling light more brilliantly lighted. Hence under attic light the image will tend to leave undisturbed the normal view of the object; under ceiling light to obscure it. The ceiling-lighted image will efface the object because more strongly lighted; the attic-lighted object will overpower the image, likewise, because more strongly lighted. In the matter of reflections from upright glass the argument stands

³⁴Mr. Papworth remarks: “The reason that many galleries fail of success is that they are overlighted; and few persons comprehend this defect;” p. 74.

³⁵Martin Mayer. *Museumskunde*, VI., 1910, p. 162.

as decisively in favor of attic light as it stood for reflections from the horizontal glass of desk cases.³⁶

(3.) The evidence favors attic light again in the final point—that of glare coming from sunspots, or the spaces on floors and walls directly lit up by the sun. The tempering of direct sun by semi-transparent curtains is a necessity of any system of museum lighting; but without unduly darkening the room its effect can only be reduced without being wholly obviated. This effect takes the form of an inequality of illumination between the sunlit and the shaded wall such that the visitor may be hindered in seeing either well. Objects under the influence of direct sun dazzle him on turning from those dimly lighted; and the dimly lighted are difficult to see on turning from the brighter.³⁷ The decision of this final point between top and attic light must therefore turn on the question as to the amount of exposure of the exhibition walls of a gallery to sun-

spots under the two systems. The lighting which gives smaller wall-spots for shorter periods will have the advantage. Diagrams 9 to 18 show as might be anticipated that the advantage remains with attic light.³⁸

As before, no account is taken of the effect of the structure of the roof on the spots under top-light, no uniformity of opinion existing as to the details of its best design. An opaque zenith is held a *sine qua non* of good top-lighting by most museum authorities at present, and would cut out a portion of the sunspots from top-light, as it did of the reflections from the ceiling opening. Again, those which are represented at the top of the walls in the diagrams might be less in size or entirely shut out, as more of the roof near the eaves were of solid construction.

The spots are represented as they would appear on the longest and the shortest days in the latitude of Boston; their approximate size and place at other times being deducible from these extremes. They are taken at 9 o'clock A. M., the usual opening hour of mu-

³⁶On drawing the necessary lines in one of the diagrams, it appears that from no standpoint will the image of the room seen at or beyond the customary distance of three feet from glass 7 feet 6 inches or 8 feet in height show more than the lower fringe of the attic, or cove, below the normal altitude for the convenient inspection of objects, namely, 30 degrees; and for almost all standpoints no part of the attic will descend within that range; that is, the normal image will be almost wholly confined to that part of the room in which the illumination is not maximal.

The image of the room seen in very high reflecting surfaces will, under attic light, likewise include its most brilliantly lighted area—that is, the attic—and hence will become disturbing. But except on the opposite wall it will not include the source of light itself, as the image under ceiling light does on all four walls. Low side-light alone excludes on high reflecting surfaces the image both of the source of light and of the area most brilliantly illuminated by it, namely, the opposite exhibition wall. But in turn, it brings either the source of light itself or its immediate reflection within the normal range of the visitor's vision in half the positions he can assume. In short, top-light, having its maxima in the ceiling and the floor, gives mediate reflections on low reflecting surfaces, and immediate reflections on high reflecting surfaces. Side-light, having its maxima on two opposite exhibition walls, gives neither on high surfaces, and immediate reflections on opposite low surfaces. Attic light, finally, having its maxima on two opposite walls above the exhibition range, gives neither on low surfaces and immediate reflections on opposite high surfaces. If the attic is made throughout a reflecting surface, as it should be, it adds mediate reflections on the remaining high surfaces. Since glass is the protection to objects within reach commonly found necessary in museums, and high objects are generally non-reflecting, attic light alone gives the exemption most needed, taking the whole exhibition wall into consideration.

³⁷Professor Wagner remarks that the walls of a top-lighted gallery may be so unequally lighted that the pictures on the darker wall "are for the moment hardly discernible." *Durm's Handbuch der Architektur*, IV., 6, 4, p. 238.

³⁸The spots have been mapped out according to the following principles:

The path of a ray of light across a room will follow a straight line having a certain point of entrance into it, a certain direction through it and a certain point of contact within it.

Given the point of entrance and the direction, the point of contact may be found as follows:

The three pairs of parallel faces of which a rectangular room is composed, being the ceiling, floor and walls, the point of entrance of sunlight may lie in any face but the floor. Its position will be determined by its perpendicular distance from any other two faces adjacent to this face and each other. The direction of the ray will be given by the compass point through which the plane of its projection upon the floor passes, called its bearing; and its altitude, or the angle it forms with the floor in the plane of that projection.

The projection of the ray upon the floor may be a point; in which case the point of entrance will be in the ceiling, the bearing of the ray will be indeterminate, its altitude will be a right angle, and the point of contact will be a point having the same position on the floor as the point of entrance in the ceiling.

Or, the projection of the ray upon the floor is a line; in which case the point of entrance may be in either the ceiling or the walls, and its bearing will be determined as the compass point of the plane of the projection. This plane will intersect one or both of the pairs of opposite walls.

If the intersection is with both the pairs of walls, the bearing will be a diagonal of the room, and the point of contact may be found by projecting on one of either pair of walls the figure formed by drawing from the point of entrance, in the plane of the bearing, a line forming with the floor an angle equal to the altitude.

In general, the intersection will be with one pair of walls only; in which case the point of contact will be found by projecting the same figure upon one of the other pair of walls.

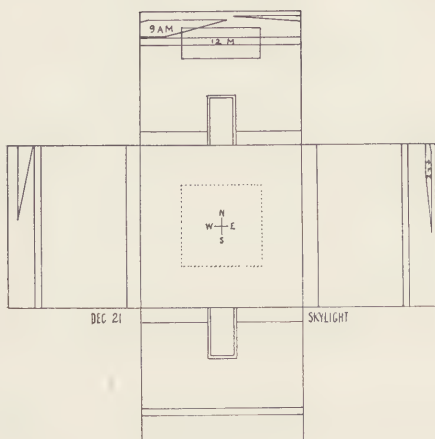


DIAGRAM 9.

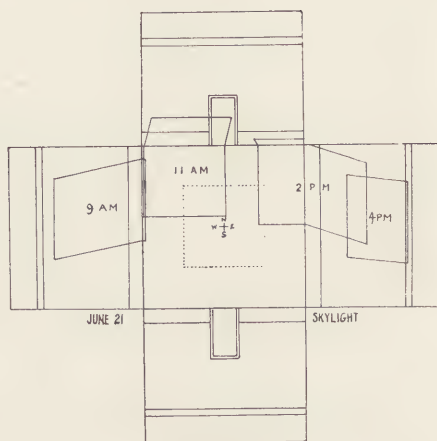


DIAGRAM 10.

seams; at noon or other intermediate hours, and at the winter closing hour—4 o'clock—and the summer closing hour—5 o'clock. The intermediate hours show the sweep of the spots.

The galleries are represented seen from above, with the four walls laid out flat. All are supposed aligned with the cardinal points. As the ceiling light is square, and central in a square gallery, two diagrams, one for winter and one for summer, suffice for top-light. The gallery shown is that with a ceiling light at 28 feet, being a mean between the other. For the attic-lighted gallery, summer and winter diagrams are given

with each direction of the window, north, south, east or west.

The diagrams show that under the ceiling light the spots occur every clear day, and continuously while the sun is high enough. With the attic window to the north, they do not occur at all, excepting for a short time just before the closing hour in midsummer. With the window to the south, they occur all day in winter, and until about 3 o'clock in summer. With the window to the east, they occur from the opening hour until noon, both summer and winter; and with the window to the west, from noon to the closing hour. Taking all the four

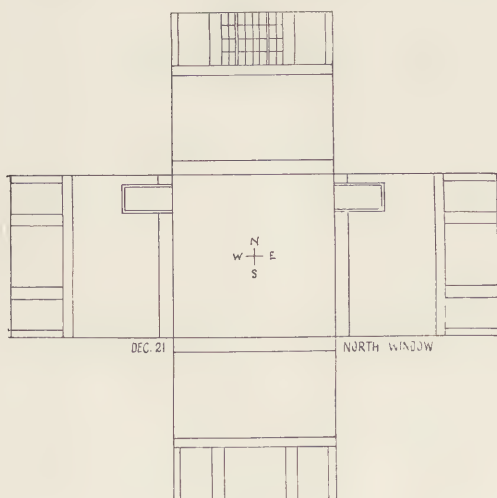


DIAGRAM 11.

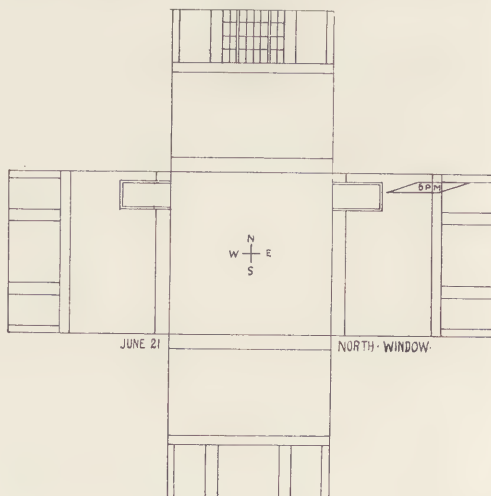


DIAGRAM 12

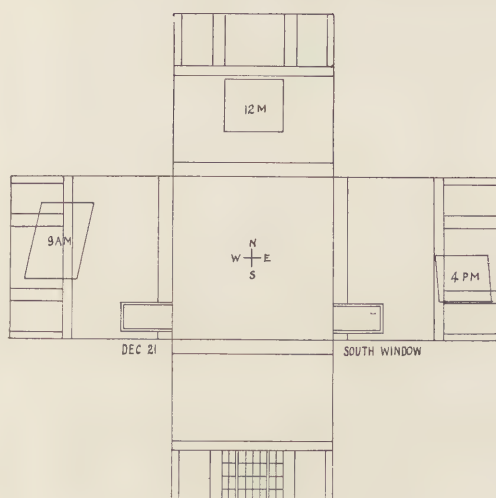


DIAGRAM 13.

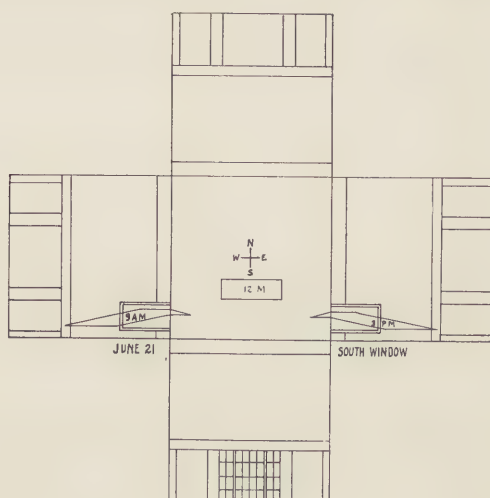


DIAGRAM 14.

exposures together, they would appear for about half as long a time in attic-lighted galleries as in galleries top-lighted.

In size, the spots from the ceiling light are in these diagrams rather the larger; but if reduced by an opaque zenith they would be smaller.

In position, the ceiling light spots in winter somewhat correspond to the window spots in summer, for the most part causing no inequality in lighting on the exhibition walls during these seasons respectively. The winter ceiling light

spots are high on the exhibition walls or in the cove above, and the summer window spots either near the doorways or on the floor, excepting in the west attic room in the late afternoon.

As spring comes on, the spots from the ceiling light descend upon the walls, causing more and more inequality of lighting, until in midsummer the western wall is bathed in sunlight during the early morning hours, and the eastern wall nearly all the afternoon. According to the diagrams the inequality of lighting has now become greater than in

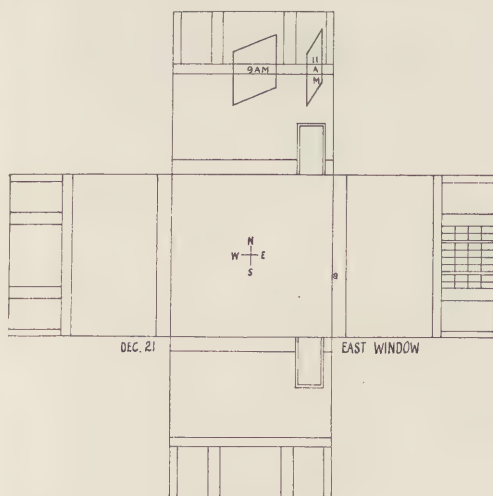


DIAGRAM 15.

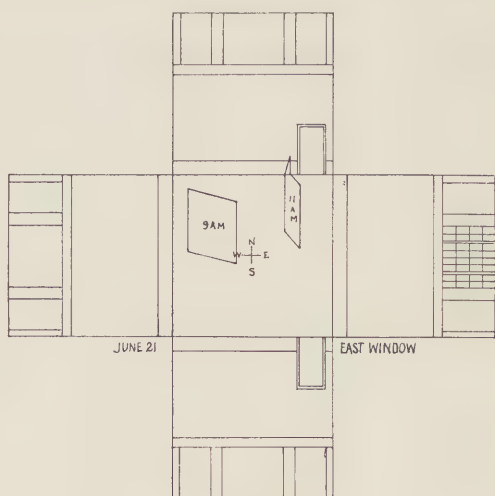


DIAGRAM 16.

the attic lighted room at any time. As autumn advances, the process reverses itself.

In the north attic-lighted room the walls would at all times be equally lighted. A patch too small to be of any effect would appear over the doorway just at the end of the day in summer.

In the southern and eastern attic-lighted rooms there would be some inequality of lighting in midwinter. But the spots are still for the most part in the attic or high on the walls, and as the season of stronger sun and clearer skies advances they begin to escape to the floor, the inequality diminishing until it

galleries. Under the ceiling light, the sunspots would begin to invade exhibition space early in the spring and would remain there until late in the autumn, reaching their maximum when the sun's rays had most power. At this season only one of the attic-lighted rooms, that directed west, would be subject to disturbing spots, and that one only at the end of the museum day. In none of the rooms do any other disturbing spots appear, except in winter when they would be for the most part innocuous. The winter exposure of a western sidelight coming at the end of the day instead of in its noontide glare has even been claimed as an advantage by the Boston

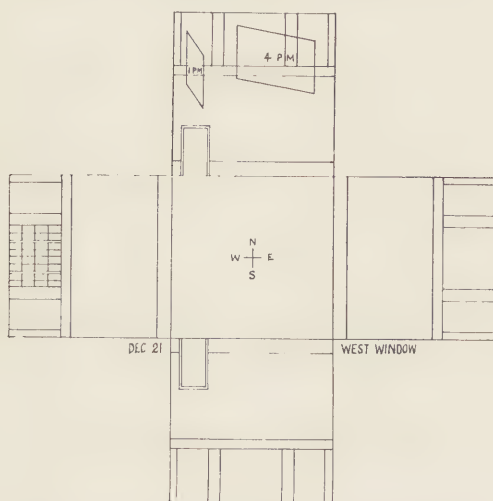


DIAGRAM 17.

disappears in midsummer; the process reversing itself in the fall.

The total exemption of the north attic room from any disturbing inequality of lighting is balanced in a measure, though not wholly, by the exposure of the western room, especially in the late afternoon in summer. Toward spring or autumn the inequality would here become practically negligible.

On the whole, taking duration and place both into consideration, and allowing for the smaller spots under an opaque zenith, the diagrams indicate that the attic-lighted rooms would suffer much less from inequality of lighting on the exhibition walls than the top-lighted

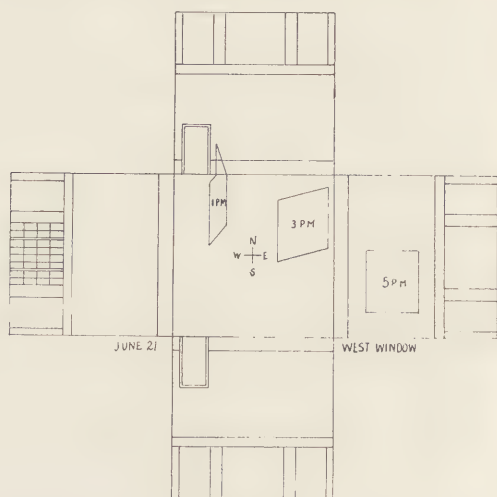


DIAGRAM 18.

experimenters.³⁹ In this final point, attic light again proves markedly superior for museum purposes.

On all the five points here passed in review, embracing glare in all its varieties, the argument has gone one way. The psychological demand in the museum lighting problem proves to be met by attic light with a success that top-light does not begin to equal.

On the architectural and practical side of the problem window lighting maintains a like superiority.⁴⁰ Another side remains—the physical—relating to the

³⁹Communications to the Trustees IV. The Experimental Gallery. Boston, 1906, p. 25.

⁴⁰B. I. Gilman: "A Museum Without Skylights." *Museumskunde*, Vol. VII, 4, 1911, p. 193.

second of the two factors in good lighting, namely, the proper illumination of the object. Here again attic lighting takes precedence. Professor Brücke stated the reason many years ago.⁴¹ While high light, like that from an attic window, best brings out the details of objects, as Leonardo said, beneath light from the ceiling the observer sees mainly the shadowed sides of any projections on an object above his eyes, whether these are the unevennesses in a canvas, a stuff or a solid object. Apart from possible sheen, a veil of greater or less obscurity therefore tends to overspread it. The difference becomes manifest, as weavers know, when the dullness of tapestries under top-light is compared with their brilliancy under light from a window. The remedy, which was suggested by Professor Brücke, assuming top-light retained, consisted in building an elevated footway through the gallery, supported on columns or otherwise, and reached by steps. From this footway the visitor would so overlook a large picture that the lighted and not the dark sides of its minute projections of pigment would be mainly visible.

Corresponding to this radical solution of the physical problem of top-lighting—that of color—an equally radical solution of the psychological problem—that of glare—had already been carried out at the New Pinacothek at Munich in the Rottmann Gallery. Here the space assigned to the pictures was definitely divided off from the space assigned to the public by a row of columns supporting a solid roof, or *velum*, above which the light was admitted upon the picture wall, while the spectators remained in comparative darkness.⁴² A variation of the same device was proposed, apparently independently, by the Messrs. Papworth, whose ideal gallery contained a central space with a roof chiefly solid and either hung or resting on columns, light reaching the pictures from above it.⁴³ The plan is nearly equivalent to the joining

of two small attic-lighted galleries face to face by an intermediate covered passage—a scheme which was adopted in the Royal Glass Palace at Munich, with results which Professor Tiede calls “extraordinarily favorable”;⁴⁴ and in the Mappin Art Gallery at Sheffield, England (1886).⁴⁵ Mr. Seager has just proposed the method anew under the name of “top sidelight.”⁴⁶

These two radical attempts to do justice to the two elements of the top-lighting problem may be called the only really important contributions to its solution which the century of the prevalence of top-light in museums has brought forth. All the discussions since on other points—on the relation of the dimensions of the ceiling opening to the height and area of a gallery, on the lines of equal illumination in the picture zone, on the form of the roof, the quality of the glass, the methods of shading the skylight and cleaning the ceiling light—appear ineffective studies of detail in comparison. Yet each of these two devices—footway and solid velum—is in its own way a *reductio ad absurdum* of the effort to light museum objects from the top. Professor Brücke's suggestion of a footway seems to have met with no serious consideration in museums; and valuable as the plan of the solid velum proves in special instances, as a general solution of the difficulty of glare it seems equally inadmissible. The design of modern aquaria⁴⁷ shows that the plan has its essential sphere in museum arrangements; and it has been used to the general satisfaction in collections of natural history, and elsewhere, as at the Northern Museum in Stockholm. Diagram 19 represents the principles employed in these various devices for the reservation of light.⁴⁸ By all of them the visitor's eyes

⁴⁴A. Tiede: “Museumsbaukunde,” Berlin, 1898, p. 77.

⁴⁵E. T. Hall: “Art Museums and Picture Galleries,” *Journal of the Royal Institute of British Architects*, Vol. XIX., 1911-2, p. 402.

⁴⁶S. H. Seager: *Journal of the Royal Institute of British Architects*, Vol. XX., 1912-13, p. 51.

⁴⁷Brewer, p. 396.

⁴⁸M. Mayer: “Betrachtung eines Bautechnikers über die Einrichtung von Schausammlungen,” *Museumskunde*, Vol. VI., 1910, p. 165.

G. von Koch: “Die Zoologischen Sammlungen des Landes-Museums in Darmstadt. 3. Museumskunde VI., 1910, p. 92.

Edmund M. Wheelwright: *Communications to the Trustees*, III. The Museum Commission in Europe, p. 105 and Plate 76.

Brewer, p. 389.

Dr. F. A. Bather: “The Northern Museum, Stockholm,” *Museumskunde*, Vol. IV., 1903, p. 68.

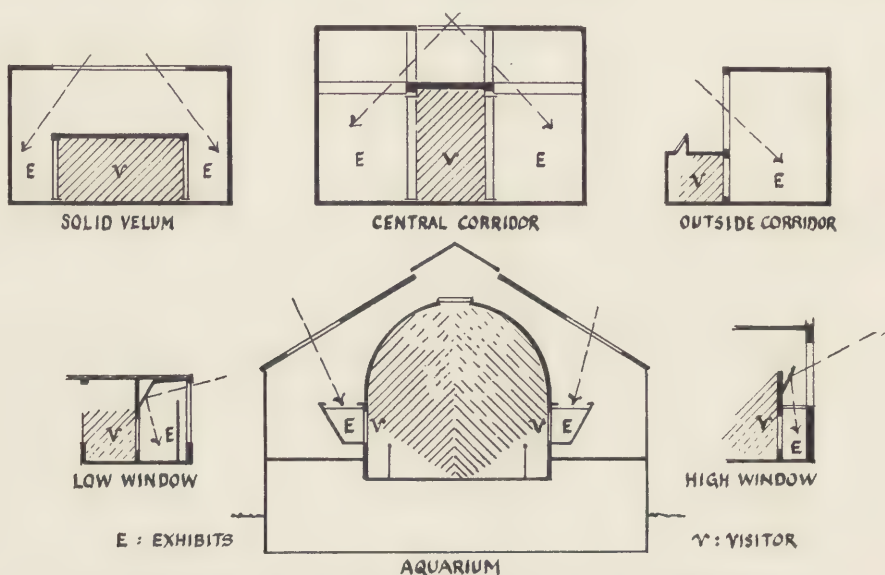
⁴¹Ernest Brücke: *Bruchstücke aus der Theorie der bildenden Künste*. Leipzig, 1877, p. 171f.

⁴²Mr. Wheelwright remarks of this gallery: “Aside from the obstruction to view from the columns, the effect of this method of lighting is very undignified.” *Communications to the Trustees* III. The Museum Commission in Europe, p. 93.

⁴³Papworth, p. 73 and Plates 9 and 10.

are shielded from direct glare from the light-openings. Nevertheless, for a large share of the contents of all museums, whose adequate seeing demands the alternation of close with distant inspection, a screen reserving light for the objects alone may be set down as out of the question. If made a rule, the restric-

The general problem of glare is not to be solved by attending to the augmentation or the reservation of light from an original source; but to its diffusion thereafter from all parts of the room not occupied by the objects and the public. Such a diffusion takes place under attic light, the whole area of maximal illumina-



METHODS OF RESERVING LIGHT FOR EXHIBITS.

DIAGRAM 19.

tion of the visitor's freedom of movement resulting from putting the public instead of the objects behind a barrier, as Herr von Koch has phrased it, would be intolerable.⁴⁹

⁴⁹G. von Koch: "Ueber Naturgeschichtliche Sammlungen." Darmstadt, 1892. Also *Museumskunde*, Vol. VI., 1910, p. 93.

tion above the cornice becoming its secondary source. This is evidenced by the success of clerestory lighting wherever employed; and in this use of balanced openings the principle of attic light promises also a solution of the problem of museum planning, as it will now be attempted to show.

(To be continued.)

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BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART I.

HISTORICALLY the Colonial period ends, of course, on the fourth of July in 1776, but architecturally it cannot be so definitely limited. On the basis of the principle that styles must decay slowly and cannot be supplanted at will by new forms, we must allow for a long period of time—surely a full half century, or even more in some localities—for the gradual elimination of the Colonial manner and the introduction of a new architectural creed. But the new creed itself is composed of a number of variants of older methods. Among the latter we include the partly contemporary Georgian style, which bears a vital relation to Colonial art and is, in a sense, its foster parent, and also the many and vicarious intrusions upon the sedate course of architectural growth at the hands of builders, carpenters, untutored laymen, dilettante and nondescripts, the results of whose nefarious activity we have yet to endure in many an Eastern town. But this is, perhaps, an evil that must always be accounted for in a vast territory like the United States and which, furthermore, may not be dissociated from the legitimate development

of a style upon virgin soil devoid of civilized traditions of its own.

Whether we favor the sharp distinction between the terms Colonial and Georgian—assuredly there is every opportunity for a decided opinion in either direction—or whether we use the terms interchangeably, the definition of Colonial architecture itself must remain the same and that type of building art must still retain the same origin. Colonial architecture was at best a reproduction upon fresh ground, with at first almost hopelessly limited facilities, of the English architecture of the eighteenth century. If we consider in their due importance the prevalence and cheapness of wood in this country when the cities were still few, the paucity of architects and fine builders, the still very strong current of influence from England itself, and then also give proper credit to local effects due to a diversity of sources, e. g., Dutch influence in and about New York or Swedish influence centering in Philadelphia and along the Delaware, the picture achieves a little more of the stern reality, approximates more nearly the actual proportions of the courageous un-

dertaking of our Colonial builders. They worked with a curious harmony that defied distances and the varying effects ascribable to political or religious causes, and, above all, seemed to ignore the inviolability of anything "classic" or in any way set according to the inexorable interpretation of minutes and modules that is the soul of Vignola, Alberti and Palladio, but is a mere accident in the eyes of the men who are responsible for our earliest architectural records. The many local divergences unconsciously approach one another and are gathered together into a single channel which cannot be expected to avoid entirely the English character. This it maintains, however distantly, up to and even during the time of the awful purity of the Greek Revival and the equally dead formalism of its Gothic counterpart and sequel; but before these malignant growths had appeared in the field of architecture of the first states, the old wood and brick and stone forms of the pioneer builders had crystallized into a type of building that we can rightfully call our own, for it was the direct outcome of our own manipulation of forms that belong to time, not to a single race or place or period. To be sure we cannot claim any deep or thorough expression of American life for our architecture of the eighteenth century; the time was not ripe, our training too meagre, and our political unity still too weakly cemented.

The best contributions brought to architectural progress by the Colonial period were in a sense accidental, for they grew out of a translation of definitely proportioned stone units in the European form into painted wood units used in wooden structures chiefly and less amenable to the modulations so necessary in the heavier material, a translation, in the opinion of one critic, from the classic into the vernacular. Changes in material have at all points in the history of art worked both evil and weal for architectural motives, both in masses and in ornamental details. So long as the carpenter with European training, or whose master had been taught in England, executed the work of the Colonial time we find sufficient restraint, care and

painstaking effort. But he was followed by the type of artisan that a republic is apt to encourage; the provincial carpenter of the early years of our states was the creator of many a horror of gimcrack for which critics have earnestly hoped he would be brought to stern judgment in an architectural hereafter. The field was a clear one, utterly his own; trained American architects were non-existent. Beside his vagaries "the freaks of the Colonial carpenters were gentle and subdued extravagance." According to Montgomery Schuyler, "the very timidity and feebleness that often accompanied the refinement of their work becomes in the retrospect an engaging and amiable weakness." A weakness we do not hesitate to condone; but the intrepid assaults of the untrained hand upon forms in the slow flux of development savors too much of a slaughter of the innocents. It has been aptly said that in the hands of a man of genius, the Colonial style would have been but a poor tool, but to the men who had to use it, it was salvation.

The literature of Colonial architecture is as distinctly our own as is that manner of building itself. We seem to have realized fairly early in our national career that our first attempts at building were worthy of record and that the task of writing of our architectural heritage should not be entrusted to alien hands. Therefore we have been careful to measure and to photograph, to draw and even to engrave innumerable examples of houses and churches, first chiefly from the point of view of the individual and later from that of general architectural record. The beginnings of the literature of Colonial architecture must be sought in the villages and towns, in the local accounts, often buried in church records, family albums, diaries and letters, which now serve as the searching ground for those who undertake to describe the architectural history of the eighteenth and the first few decades of the nineteenth centuries. These early records are, of course, careful to indite names of owners and occupants, deaths, titles, fires, marriages and earthquakes, but cannot be relied upon for purely architectural discussion or for details of construc-

tion, let alone for indication of the mode of procedure of the "architect." They are, then, useful original documents for the historical writer and have served the purposes of larger works like Mr. Embury's *Early American Churches* or Messrs. Desmond and Croly's *Stately Homes in America*, as well as those of less pretentious volumes like that of Mr. Wight on the *Old Time Meeting Houses of the Connecticut Valley*. Beyond this the early times furnish nothing further until the Colonial period itself is well past.

Between the beginning of the nineteenth century and the Civil War were issued several interesting works of now purely archaeological value, suggested by contemporary English publications. These were generally designated by the title "Companion," or "Jewel," or "Assistant," or "Guide," coupled with the words carpenter's or builder's, but never architect's. By way of illustration we might quote *The Builder's and Workman's Treasury of Design*, published in 1756 in London and containing every manner of instruction in geometry and in carpentry, in the orders and in planning. It is recorded, for instance, that a copy of this work was used as a text book of inspiration, if not of forms, by Elias Carter and by his son Timothy, who are responsible for a number of structures in the valley of the Connecticut River. This might be cited as a very direct indication of the English influence in our early architecture. But the American spirit of independence sought its outlet in this direction also and produced as early as 1797 the first American attempt at architectural publication. The writer was Asher Benjamin, who issued all told some five or six volumes, some of which were renamed later editions of his first work. There was a volume entitled *Rudiments of Architecture*, another called *The Practical House Carpenter*, another *The Builders' Guide*, and still another *The Practice of Architecture*. In 1816 he published *The American Builder's Companion*, which he called "a system of architecture particularly adapted to the present style of building, treating on practical geometry, the origin of

building, of the five orders of architecture, of their particular parts and embellishments, and of their application, also very fully on stairs, on plans and elevations of houses for both town and country, on churches, courthouses, etc., on sashes, sash frames, shutters, doors, cornices, etc., base and surbase mouldings, architraves, etc., etc." He was obviously controlled by the then very general weakness which led men to print half their volumes on the title pages; but his work is the first conscious attempt to regularize the multifarious forms current in America when the eighteenth century ended. Benjamin signs himself "Architect and Carpenter"; there is, to be sure, some consolation in the arrangement of the words, which might be construed to augur precedence for the architect. But we are assured that the author himself would have been at a loss to say finally by which of the names he would rather be known to posterity. The type of Asher Benjamin's writing is carried out later by Peter Nicholson, Wightwick and others, whose efforts do not lie along Colonial lines.

After the Civil War an interest in our beginnings historically, as well as the prodigious increase in civic development throughout the country generally, prompted the production of volumes recounting the history of communities and of states. Detailed study of our past could not avoid the monuments which served as its impress, and therefore of necessity touched upon many of the old buildings; their importance and quality became gradually more apparent. So, finally, appear the first studies of the buildings, first in districts or colonies in the older sense, later in the form of separate investigations or monographs covering specific structures or groups. A general historical point of view is uppermost in these, and the architects seem to have been too seriously occupied learning their artistic alphabets and distorting European forms to give time to the reproduction of Faneuil Hall or Old South Church as direct and original inspirations from the very soil upon which they were foisting their misguided efforts. Presently the

first "sketchy" drawings make their appearance; crude plates, better engravings, and an occasional bit of text. Added impetus is then given to such studies by bodies of men formed for the preservation of historic monuments or records or traditions, such as The Sons of the American Revolution or the American Scenic and Historic Preservation Society. These bodies have taken it upon themselves to restore certain of the old buildings, to convert others into museums or national or municipal property, and finally to issue descriptive volumes, as for instance that concerning the Phillipse Manor Hall at Yonkers, N. Y.

Undoubtedly the best general work thus far published for the detailed study of Colonial architecture is the series of articles and plates grouped under the title "*The Georgian Period, a Collection of Papers Dealing with 'Colonial' or XVIII-Century Architecture in the United States, together with References to Earlier Provincial and True Colonial Work*." This was published by the American Architect and Building News Company, first serially in its weekly periodical and later issued in twelve folios usually bound in three volumes, and containing all told four hundred and fifty full page plates, half of which are measured drawings and half perspective sketches and photographic views, together with over five hundred miscellaneous illustrations in the text. Each part contains a certain quantity of text material in the form of short articles by Claude F. Bragdon, W. S. Wicks, A. B. Bibb, Sylvester Baxter and a number of others, interlarded with appropriate smaller cuts of buildings and details not available in sufficient quality for reproduction in the plates.

It is interesting to note that the words "*Georgian Period*" appear enclosed in quotation marks on the title pages for the various separate parts and that the word "*Colonial*" is similarly emphasized in the general volume title pages. It would seem that the Georgian-Colonial quarrel had been too momentous even for the editors of this important work to settle; so they literally drove the devil around the stump by quoting systemati-

cally now one now the other of the disputed style names and adding the qualifying words "or Eighteenth Century Architecture." They further maintained the broader title in the eighth part, which contains many English examples, notably from London and Dublin, of the time of the Georges.

Some well known architects appear in the list of modest persons whose names are written after the words "measured and drawn by." This list includes among many others the names of Frank E. Wallis, Claude Fayette Bragdon, E. Eldon Deane, Pierre G. Gulbranson, George C. Tolman, Walter Campbell, J. C. Halden, George Clarence Gardner, Glenn Brown, F. S. Swales, E. W. Donn, Jr., and C. L. Hillman. The whole series of plates was published during the years 1898 to 1902 and is now obtainable for sixty dollars from the original publishers. Some of the individual plates are of notable quality, not only as drawings, but as historical material. We might cite in the first part the plate showing the entrance to the Old Meeting House at Sandown, N. H.; in the second part those of Christ Church at Alexandria, Va., the Old State House at Boston, the plate of mantels from the Hills and Mumford Houses at Rochester, N. Y.; in the third part the sheet of details from the Morris House at Philadelphia and that containing a number of examples of Colonial fan, head and side lights; in the fourth part the plate showing the framing of the major roof trusses in the Old South Church; in the seventh part the plate of Salem porches and Salem doorways, and in the tenth part the drawings of the drawing room of the Bull Pringle House at Charleston, S. C. In the same fashion we might point out a number of other excellent examples which serve in great measure to carry through the general high quality of the set. We lament the deficiency in plans and in sections; a number of small scale plans appear in the text illustrations, but it is our humble opinion that at least a small plan and a small section ought to be printed on every plate dealing with a whole building. Additional construction drawings would also be of great interest. These

points are mentioned simply to encourage a certain finality and thoroughness in all respects that should be characteristic of so exhaustive a work.

Not the least important matter in connection with the *Georgian Period* is the fact that it was published under the general editorship of William Rotch Ware, without question the most dignified figure in the teaching of architecture in this country, founder of two leading schools of architecture, at Columbia University and at the Massachusetts Institute of Technology, and surely the fundamental inspiration of all important schools founded in the United States.

When the *Georgian Period* was begun the undertaking did indeed seem a formidable one. The direct or immediate cause that brought it into being seems to have been the unholy assault upon the "Bulfinch Front" of the old Massachusetts State House. When the work was finished at the end of four years' effort, Professor Ware in his envoi regretted that it had not been published earlier in the nation's architectural history by at least twenty years, because for lack of a similar guide and "through the imperfect understanding of the style which naturally grew out of this lack, the country has been endowed with a vast quantity of buildings intended to express the spirit of 'old Colonial' work, which, because of their ill-considered proportions and vulgar overdressing with applied ornament, are too often mere caricatures of the style."

Next in importance should be classed the fine publications of Corner and Soderholtz and those of Frank E. Wallis. Corner and Soderholtz collaborated in two excellent series of plates, all from photographs and not accompanied by measured drawings, plans, or details of construction; while Crane and Soderholtz published a third series; since these all concern chiefly domestic architecture they will be mentioned later in their proper position. Mr. Frank E. Wallis issued two volumes which served for a number of years as a constant mine of information for students, although finally supplanted by *The Georgian Period*. His earlier volume, published at Boston

in 1888, bears the title *Old Colonial Architecture and Furniture*; it is a folio volume, without letterpress, containing sixty plates. An occasional copy is still to be found, but would probably bring a prohibitive price. The succeeding volume, however, which was published in New York in 1895, is now easily obtainable. This is entitled *American Architecture, Decoration and Furniture of the Eighteenth Century, a Collection of Measured Drawings and Sketches of Existing Work*, with an addition of modern work of the same period; it is likewise a folio volume of fifty-two plates and its price to-day would be about seven dollars and a half. The first of these publications restricts itself to actual monuments, while the second may be considered as striking an early keynote for the present high favor of the Colonial style of building. The second of the volumes was a marked improvement upon its predecessor in draftsmanship and in bookmaking; the plates are clearer and the general treatment of the volume is more useful for the designer. Actual measurements are shown, plans and better profiles are also given. A good suggestion appears in the arrangement of several plates of mouldings all drawn to the same size; and a better one in the analytic drawings of furniture, a slightly rendered perspective view being paralleled by an outline elevation or an isometric drawing giving measurements. Sometimes the same end is met by a smaller key perspective in one corner. Unfortunately the scale is not always indicated and plans are too few. The introduction of original designs "of the same period" has further limited the value for present purposes of an otherwise very useful book. Mr. E. E. Soderholtz, this time without assistance, also published in Boston in 1895 a good folio volume of sixty-six plates under the inclusive title *Colonial Architecture and Furniture*. This also concerns chiefly domestic work and shall be noted again. The same holds true of Chandler's *Colonial Architecture of Maryland, Pennsylvania and Virginia*.

This brief list exhausts the field of the general works on Colonial architec-

ture. No doubt there are available at certain places local or state accounts, usually chiefly historical or biographical or purely ecclesiastical, but in most cases of minor value for the practitioner because of poor illustrations or lack of details. There are a few and fortunately fairly good volumes devoted exclusively to the churches, and a goodly number recounting the stories of the homes. But of general works there is a dearth. We need more and larger plates of measured details; above all, careful sections of buildings and sections and profiles of mouldings and other ornamental details. The rich field of our Colonial work should be written up thoroughly and finally, so that the record may be considered an authoritative and exhaustive one. There should be monographs on all

buildings of note, especially on those of recognized quality or of especial historical value, with good detail plates and line perspectives of construction, especially of stairways, roofs, porches and the like. The churches, above all, require attention in this respect. There should also be plentiful illustrations of doorways, windows, fireplaces, church towers, pulpits and other features. Some attempts in this direction have been inaugurated, but they are halting and tentative. The buildings disappear rapidly, almost monthly, and many are repeatedly altered, converted into taverns and museums or turned to other purposes, which almost invariably involve important structural changes. It is high time that the final record of the architecture of our formative period be written.

(To be continued.)



The Art of Landscape Architecture, Its Development and Its Application to Modern Landscape Gardening. By Samuel Parsons, Fellow American Society of Landscape Architects; author of "Landscape Gardening," etc. Ill., 8vo., 341 p., index. New York: G. P. Putnam's Sons. \$3.50.

The New Movement in the Theatre. By Sheldon Cheney. Ill., 8vo., 303 p., index. New York: Mitchell Kennerley. \$2.

American School Building Standards. By Wilbur T. Mills, A.A.I.A. Ill., 12mo., 598 p., index. 2d ed. Columbus, Ohio: Franklin Educational Publishing Co.

A Monograph of the Work of McKim, Mead & White, 1879-1915. To be published in about twelve parts. Large folio. Parts IV and V, with 40 plates. New York: The Architectural Book Publishing Co., \$5 each.

Wiring of Finished Buildings. A Practical Treatise Dealing with the Commercial and the Technical Phases of the Subject for the Central Station Man, Electrical Contractor and Wireman. By Terrell Croft, Consulting Electrical Engineer; author of "American Electricians' Hand-

book." Ill., 8vo., 256 p., index. New York: McGraw-Hill Book Co. \$2.

Sanitary Refrigeration and Ice Making. By J. J. Cosgrove, author of "Principles and Practice of Plumbing," etc. Ill., 8vo., 331 p., index. Pittsburgh: Standard Sanitary Manufacturing Co. \$3.50.

Concrete Stone Manufacture. By Harvey Whipple, Managing Editor "Concrete-Cement Age." Ill., 12mo., 247 p., index. Detroit: Cement Age Publishing Co. \$1.

Descriptive Geometry. For Students in Engineering Science and Architecture. A carefully graded course of instruction. By Henry F. Armstrong, Associate Professor of Descriptive Geometry and Drawing, McGill University. New York: John Wiley & Sons, Inc. \$2.

500 Plain Answers to Direct Questions on Steam, Hot Water, Vapor and Vacuum Heating. The science and practice of heating explained * * * with tables, rules and general information, forming a complete text book and manual. By Alfred King, author of "Practical Steam and Hot Water Heating," etc. Ill., 8vo., 206 p., index. New York: The Norman W. Henley Publishing Co. \$1.50.



The First Architectural Society in America.

Perhaps an architectural society filled a "long felt want" in New York in the year 1803. It is perfectly easy to imagine that the architects of that time, while working out the problems involved in the designing of those cheerful little red brick houses that were so very popular in old New York, would have looked forward to an occasional hour or two spent in company with other men well acquainted with the difficulties of a life devoted, as early practitioners generally found it profitable to do, to "the arts of architecture and surveying," or architecture and some other remunerative "branch."

At the very inception of the movement for a society it would seem that any association of architects would, as early as 1803, have met with considerable difficulty in making up a sufficiently large membership list. But the society was organized, there is no doubt about that, and its members bore the charming title of Brethren of the Workshop of Vitruvius.

The first appearance of the Brethren in the public prints was on August 19, 1803, in a notice printed in the New York Evening Post as follows:

"Noble Architects

"The Brethren of the Worksop (sic) of Vitruvius are informed that in consequence of the prevailing Epidemic, the order is adjourned until called together by the M. R. O.

"James Newton, F.A.M.R.O."

In November of the same year all danger from the epidemic having passed, the Brethren promptly reopened their shops and on November 9th, under another heading of "Noble Architects," the Brethren of the Workshop of Vitruvius were informed "that a meeting of the Order will be held on Friday next, at 6 o'clock, at the usual place. By order M. R. O. James Newton, F."

Just who these Brethren were, what their number, aims or ideals, is not possible to guess after a lapse of a hundred and ten years. One thing, though, is very certain, there must have been very few, perhaps less than a dozen of them, unless amateurs were admitted as members or associates, for in spite of all the buildings that one saw going on during the first years of the nineteenth century, whether in New York or elsewhere, architecture was by no means a lucrative profession; and the few architects that there were usually found it convenient to carry on some better paying if less aesthetic pursuit—such as painting or surveying—upon which they could fall back at odd or slack times.

As a matter of fact, architects who did not divide their time in this way were an exception. Perhaps few architectural historians are aware of the fact that even Asher Benjamin, who is well known both as an early writer on architecture and as a successful architect, carried on his work during his earlier years—from 1816 to 1823—in connection with a profitable paint business of which he was proprietor, or that Peter Harrison, the English architect, who designed King's Chapel in Boston, the Redwood Library in Newport, and many other buildings, had spent his days, some sixty-five or more years earlier than Benjamin's time, between architecture and waiting upon the Bostonians who patronized his grocery store, at the back of which, I suppose, he had his draughting "workshop."

Some architects did not think it wrong to get new work by a certain amount of judicious advertising. A certain "D.D." who, I hope, was no Brother of the Workshop, advertised his architectural ability in New York papers during 1806. Owing to the fact that no one whose initials correspond to those given in these advertisements lived as a permanent resident at the address he gives, I am disposed to think that he was a traveling architect who went

from town to town after the manner of the itinerant portrait "Limners" of earlier Colonial days.

"D. D.," on December 24, 1806, advertised:

"To Merchants and others of New York

"If any person wishes to have any Dwelling or Store House built by contract in this city, please direct a line to D. D. No. 169 Broadway, New York, where all applications will be received, and satisfactory information will be given—also, Plans and Elevations (sic) will be drawn suitable to the applicant. One quarter of contract money will be taken in Dry Goods or Groceries and satisfactory security will be given for performance.

"N. B. No applications will be received after the 10th of January, 1807."

One important circumstance in connection with the unprofitable state of architecture that prevailed in the early nineteenth century, after taking into account the general practice by builders of furnishing designs for buildings they were called upon to erect, and which the Brethren may have attempted to stop, was the buying and selling of second-hand plans and details. On January 19, 1804, "A gentleman whose intention it was to have built a house in this city, but who has since relinquished his design," addressed an advertisement in the New York Evening Post "to gentlemen who intend to build, and to Master Builders," in which he offered a plan of a house for sale. The plans had been made by "one of the most eminent architects in England, Mr. John Yenn, of the board of works, architect to the King, etc., etc.," and were for a house of twenty-five feet front and contained "all the modern improvements in domestic architecture which are in houses of the present day, of that dimension in London." The architectural plans were described by the seller as follows:

"The plan is on fourteen sheets of royal paper (!!) for four stories, containing the basement with its offices, the principal, bed-chamber, and attic floors, the elevations for front and rear, the door-case on a large scale, with the cornice, frieze, architrave, base, capital, impost and archivolt mouldings in their full and proper size; drawings for the iron balconies, cornice full size for the front of the house, and two drawings showing the manner of finishing the inside of the doors and windows, all complete for the workmen."

Of course, builders must have been admitted to the Workshop, for a search through the New York directory for the

year 1803 shows that there were at that time but four architects to be found in New York, and of these four but one, Levi Weeks of Harrison street, was an architect and nothing more. Two were builders, Joseph Baird, also of Harrison street, was a builder and architect, and Edward Probyn, of 224 William street, was an architect and builder. One certain Samuel Clark, who announced himself as an architect and grocer, kept his shop at 228 Broadway, corner of Reed street in a building that was occupied at the same time by his brother, Alex. Clark, who was a grocer as well and also a builder.

Perhaps these four architects were members of the society and the list would probably have been enlarged by the addition of John McComb, who was one of the earliest Americans to realize and attempt to put into practice what he often referred to as the more dignified "architectural point of view." Eventually he took an active part in organizing the later art societies and he would undoubtedly have had a hand in the organization and management of the Workshop. Indeed, while searching for additional information about the society, I was told by a member of the McComb family that a certificate of membership in the society made out to John McComb had been in existence several years ago, and it may still be found.

The list of men—outside of amateurs—who could qualify as members of an architectural society was not a large one in old New York, and yet some extremely important men, of whom much information undoubtedly may be found, but pitifully little of which has as yet been uncovered, worked for the architectural betterment of New York City. Of these, Joseph F. Mangin, a French architect, has received far too little credit for his contributions to American architecture as a whole. A splendid draughtsman and an excellent designer, he would have qualified for membership in any architectural society, "antik" or modern.

The only wonder in the history of the Brethren of the Workshop of Vitruvius is that this interesting society had not been discovered by some architectural historian long before I came across the brief memorials that remain of it in copies of a New York paper printed considerably more than a hundred years ago. As the earliest society of architects in America of which any record exists, it is of undoubted interest and even, in a way, of historical importance.

RAWSON W. HADDON.



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MAIN ENTRANCE GATE—RESIDENCE OF
STUART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.

THE ARCHITECTURAL RECORD

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NUMBER III

The STUART DUNCAN RESIDENCE ^{AT} NEWPORT

JOHN RUSSELL POPE, ARCHITECT

BY HERBERT CROLY

NEWPORT has been a favorite residence for well-to-do Americans for a longer period than has any seaside resort in the United States. Its importance began before the war, although at that time the people who went there did not build houses. Soon after the war was over families who lived during the winter and spring in other parts of the country began to construct summer residences in Newport. They have continued to do so more or less ever since.

Thus Newport has become probably the most interesting place in the country in which to study the history of modern American villa architecture. It contains a large number of houses constructed between 1868 and 1880, which was an extremely bad period in the history of American architecture, but one which contained the promise of future betterment. Newport has a still larger number of examples derived from the period between 1880 and 1895. Indeed, this pe-

riod may be said to belong to Newport more than to any other one part of rural America. It was just at that time that very large fortunes began to be accumulated and their owners began to make them the excuse for building large and expensive country residences. Newport was the scene of the first era of extravagant attempts to provide an adequate setting for the life of the modern American millionaire. The results were in some respects rather absurd. Millions of dollars were spent on marble palaces which occupied an acre or two of space between the sea and the street, and were wholly lacking in the surroundings and approaches necessary to give them any propriety in their landscape. Towards the end of the period the architectural standards embodied in these houses began decidedly to improve, and had Newport continued to be as popular with well-to-do Americans as it had been up to 1895, both the general aspect of the place and the



PLAN OF THE GROUNDS AND FIRST
FLOOR—RESIDENCE OF STEWART
DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.

general architectural average would have been changed very much for the better. During the last twenty years, however, Newport has declined in popularity. Well-to-do Americans have preferred to build their country places in a location which permitted them to secure a larger acreage and to arrange for a more diversified and more convenient life in the country. They have built their new houses in the immediate vicinity of Boston, New York and Chicago, and the best examples of American domestic architecture are to be found in places within twenty-five to forty miles of large cities, such as Lake Forest, in Illinois, or the North Shore of Long Island.

We do not mean to imply, of course, that during this period Newport has been entirely neglected. A sufficient number of houses have been built there during the last twenty years to illustrate the changes which have taken place during that period in American architectural tendencies and motives. The houses that have been built, particularly during the last ten years, have none of the faults of the earlier flamboyant period. They are none of them palatial in their dimensions, ostentatious in material, or lavish in ornamentation. The reaction against building palaces has won a complete triumph, and the good American, no matter how wealthy he may be, is now content to live in a comparatively modest and unpretentious house.

These modest, unpretentious houses are designed in almost as many different styles as were the palaces of the last generation, but the feeling for style has in the meantime become very much finer and more delicate. These comparatively unpretentious dwellings are now incomparably more idiomatic, and at the same time more distinguished, than were their predecessors. The gibe, which had a certain measure of truth in it twenty years ago, that American architecture was either bizarre or Beaux-Arts, is no longer true, and one of the best recent illustrations of this fact is contained in the residence which Mr. John Russell Pope has designed for Stuart Duncan, Esq., on the shore of Newport.

The style of Mr. Duncan's residence is that of an early English manor house.

Mr. Pope has not been accustomed to take his models from English sources. He has, until recently, been far more affected by French and Italian influences, but the use of his French and Italian precedents has been very free. He has always displayed a somewhat experimental and adventurous disposition in adapting the older styles to modern American uses. The Duncan house remains, nevertheless, a striking example of his versatility. Although it is his first serious attempt to design an English manor house, he has succeeded in creating one of the best examples of this type in the whole country. The house possesses a picturesqueness and charm that is unusually rare. It looks extremely easy to design a house in these loose irregular styles, because the imagination of the designer is not tied down by some rigid tradition of form, as it is in the case of Renaissance buildings. Of course, this apparent ease is really illusory, for it requires a more special and higher grade of architectural talent to make a house of this kind charming and idiomatic than it would to do the same thing with a house derived from one of the Renaissance models. The proof of this fact is that so many architects have tried and so few have succeeded. In this instance Mr. Pope has unquestionably obtained a very large measure of success. He has built a very large, spacious, and apparently rambling house, whose design is full of incidents and irregularities, yet which at the same time is a peculiarly happy example of the effective composition of masses and the grouping of colors and materials. There are few houses in this country which give one the impression of having been so carefully studied in all its details. Attention is called particularly to the treatment of chimneys, the patterns in which the brick has been laid, the vigorous design of the stonework, and the peculiarly successful effect of the roof. The effect of every stone and every brick that the eye rests upon appears to have been carefully considered in order to make it play its proper part in the total effect.

The details of the interior have been quite as carefully studied as those of the exterior. We have rarely seen a set of apartments in a modern American house



DETAIL OF ENTRANCE SIDE—RESIDENCE
OF STUART DUNCAN, ESQ., NEWPORT,
R. I. JOHN RUSSELL POPE, ARCHITECT.



VIEW FROM THE SOUTH—RESIDENCE
OF STUART DUNCAN, ESQ., NEWPORT.
R. I. JOHN RUSSELL POPE, ARCHITECT.



MAIN STAIR TOWER—RESIDENCE OF
STUART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.



SMALL STAIR TOWER—RESIDENCE OF
STUART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.



VIEW IN NORTH PORCH—RESIDENCE OF
STUART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.



DOORWAY IN SMALL STAIR TOWER—RESI-
DENCE OF STUART DUNCAN, ESQ., NEW-
PORT, R. I. JOHN RUSSELL POPE, ARCHITECT.



DETAIL OF SIDE TOWARD HARBOR—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I. JOHN RUSSELL POPE, ARCHITECT.



SERVICE WING—RESIDENCE OF STU-
ART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.



STAIRWAY—RESIDENCE OF STUART
DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.



WROUGHT IRON GRILLE BETWEEN VESTIBULE AND
ENTRANCE HALL—RESIDENCE OF STUART DUNCAN,
ESQ., NEWPORT, R. I. JOHN RUSSELL POPE, ARCHITECT.



LIVING ROOM—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I.
John Russell Pope, Architect.



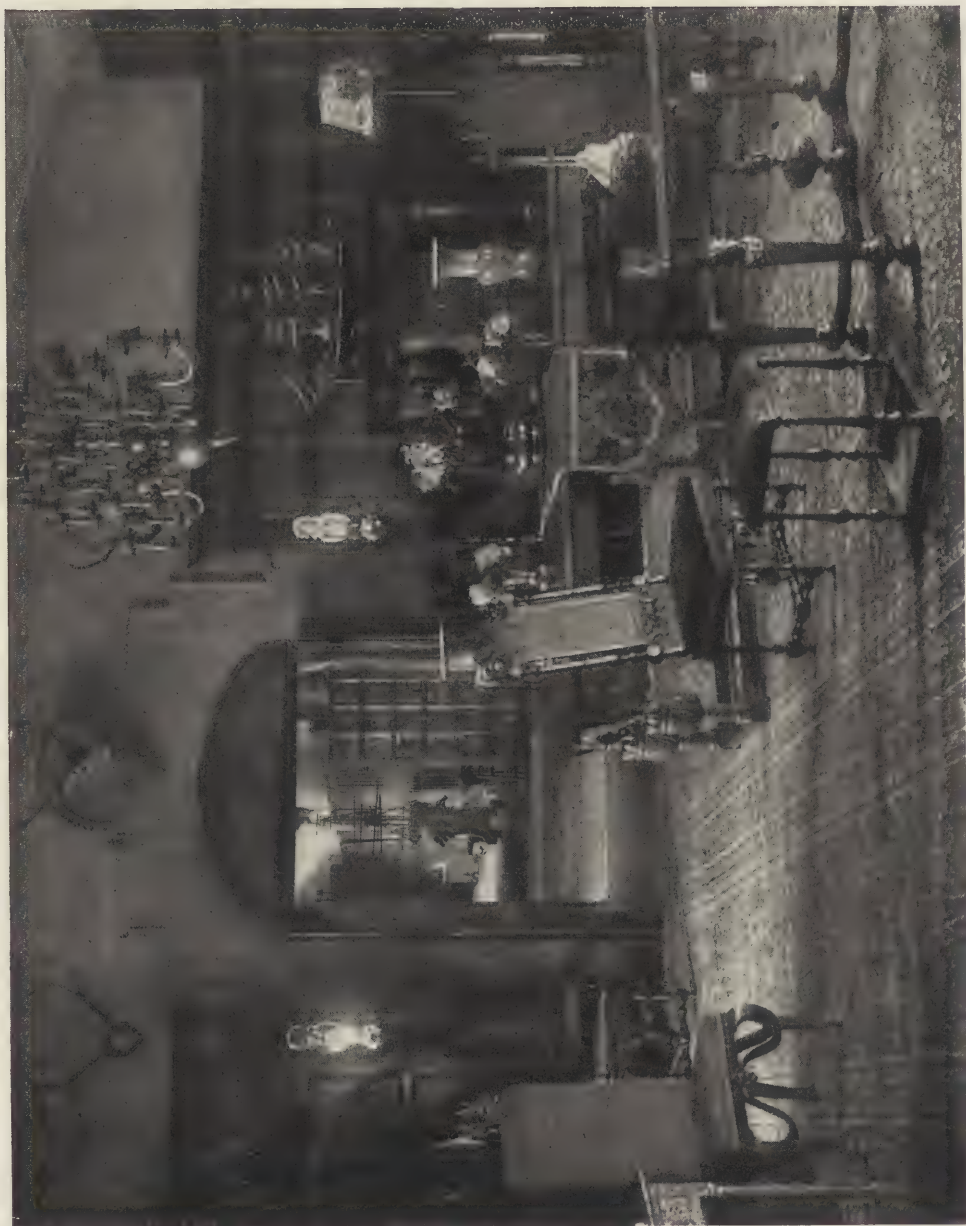
LIVING ROOM FIREPLACE—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I.
John Russell Pope, Architect.



DOOR FROM GALLERY TO DINING ROOM—RESIDENCE OF STUART DUNCAN, ESQ.,
NEWPORT, R. I.
John Russell Pope, Architect.



ENTRANCE HALL—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I.
John Russell Pope, Architect.



GREAT HALL, LOOKING INTO GALLERY—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT.
R. I. JOHN RUSSELL POPE, ARCHITECT.



LONG GALLERY—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I.
John Russell Pope, Architect.



DINING ROOM—RESIDENCE OF STUART DUNCAN, ESQ., NEWPORT, R. I.
John Russell Pope, Architect.



A CORNER OF THE LIBRARY—RESIDENCE
OF STUART DUNCAN, ESQ., NEWPORT,
R. I. JOHN RUSSELL POPE, ARCHITECT.



DINING ROOM FIREPLACE—RESIDENCE
OF STUART DUNCAN, ESQ., NEWPORT,
R. I. JOHN RUSSELL POPE, ARCHT.



SERVICE GATE—RESIDENCE OF STU-
ART DUNCAN, ESQ., NEWPORT, R. I.
JOHN RUSSELL POPE, ARCHITECT.

which betray such elaborate attention to detail. They are worth studying as one of the most interesting examples of early English interiors in the United States, and one of the most sympathetic interpretations of that type of domestic interior design.

The entrance hall is the center and core of the plan. It leads directly through the house. To the left there is a spacious living room, to the right a long gallery leading to an equally spacious dining-room. Beyond the dining-room there is an east porch on which meals can also be served. Between the dining-room and the entrance hall there is a smaller room which is used as a library.

On entering the hall from the stone vestibule through the wrought steel grilles one is at once aware that the house was designed by an architect who knew how to get the full architectural value of his plan. The eye is tempted to travel from one end of the great hall down to the Gothic screen at the end of the gallery through which can be seen the large stone mantel of the dining-room.

Wherever, in this long vista, the eye rests for a moment it is gratified by some quaint architectural detail or mellow time-worn furnishing. In the hall itself the rich walls of panelled oak, stone and plaster are broken by great mullioned windows—hospitable bays with leaded and emblazoned glass that tempers the light to the subdued harmony of deep-toned woodwork and tapestries. There is a profusion of Jacobean tables, Gothic credences, William and Mary cabinets, chests of English lac, chairs, settles and the like, carefully chosen antiques representing perhaps every period of English craftsmanship from the fifteenth to the sixteenth century, in keeping with the dominating Gothic mantel fashioned in boldly conspicuous limestone.

The long gallery forms a connecting link between the master's portion of the house and the service wing. Its windows, mullioned and transomed, command a fine view of the bay. Wainscoted in oak, it has a long wagon-headed ceiling covered with delicate early Tudor tracery. Here, also, in addition to the paintings which one expects to find in this apartment, are many interesting pieces of old furniture and curios, such as bronze cannon and a model of Sir Francis Drake's flagship. A carved Gothic screen, reminiscent of its prototype at Compton Wynyates, separates the long gallery from the dining hall.

This handsome room, framed in oak, is painted and enameled after the Tudor manner; and the neutral grays of the decorated woodwork, of the stone mullions and transoms, of the carved stone mantel, with its massive supports of black and gold marble, and the dark tones of the planked teakwood floor mirroring the length of the room, form a fitting background for the coloring of the oriental rugs, the velvet hangings and the carved and inlaid furniture.

Returning to the gallery, we next enter the library, with its early fifteenth century mantelpiece, which is surrounded by linenfold panelling and flanked on either side by arched recesses, giving space for books and bric-a-brac. The quiet treatment of the mantelpiece and its setting accords admirably with the purpose of the room.

In the foregoing paragraphs we have explored but the smaller part of a notable house, the whole of which merits attention. However, we have gone far enough to ascertain the general character of the architect's work and to form an opinion of its value; and no purely descriptive text can supply more as a basis for further study than the accompanying illustrations give.



MAIN ENTRANCE—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.

The Yale Club's New House

The seal of Yale University is centered below the title. It is a circular emblem with a shield in the center containing an open book. The shield is surrounded by a ring of text: 'YALE' at the top, '1702' at the bottom, and 'SIGILLUM COLLEII YALENSIS' around the sides. The entire seal is flanked by decorative scrollwork.

By Marrion Wilcox

IN his admirable work entitled *Éléments et Théorie de L'Architecture*, Professor J. Guadet elaborates one of those general principles which we shall do well to bear in mind if we wish to do full justice to the careful planning of this great structure.

He begins with the assertion that all the arts, and architecture most of all, have suffered loss of vital energy through their subordination to archæology. If we had to-day a Raphael or a Paul Veronese, they would not be permitted to make either the "School of Athens," or the "Marriage in Cana," because archæology would bring forward the objection that those splendid masterpieces were inexact. Thus architecture tended in the nineteenth century to become merely an adaptation of forms created in times long past—of "illogical anachronisms," to keep the learned teacher's precise words. For example, in Munich the architects imagine utilitarian Parthenons; in London, in response to the wholly modern requirements of clubs, you find once more such old acquaintances as the Farnese Palace, the Procuraties, the colonnade of the Place de la Concorde, all copied obsequiously, even to the moulding. The Italian art only knows how to repeat itself; and everywhere the same story, even in America, a country which, though young, is as old in art as old Europe. In France, at the beginning of the nineteenth century, the ideal of æstheticism was to conceive *a priori* an edifice

which, at least in design, should be Roman; somewhat later a violent reaction substituted in place of the distinctively Roman edifices, others which, being characteristic of the Middle Ages, were indeed nearer to us in point of time, but even less suited to the uses of modern civilization. Fortunately, at last the leading spirits in the profession of architecture came to realize, and to teach others, that independence is not attained merely by changing badges of servitude, and little by little our art has liberated itself from architectural palæontology. To-day we know and we proclaim that architecture has the right to be free, that liberty alone can give it assurance of life and fecundity, or, let us rather say, salvation.

In such terms as the foregoing (but at greater length in the French original) does M. Guadet explain, defend, and commend the endeavor of architects of the present generation to secure the maximum of beauty and utility by regarding their art as an art of spontaneous and free expression—so far as that may be possible. The general principle to which I referred in the first paragraph is that architecture has the right to be free; and it is always interesting to notice the successful assertion of that principle, within such restrictions as location imposes.

In a general way the new Yale Club building can be said to be of a simple and dignified neo-classical design, decidedly Italian in spirit, with colonial

modifications; and there has been no hesitation about changing rules or sacrificing any details or regulations prescribed in the nineteenth century servile and unreflecting employment of classical architecture. Wherever such change became necessary in order to realize a better design or a more practical general effect, the inherent right of architecture has been invoked to meet new problems in a new way—with independent, yet considerate, interpretation.

We shall have more to say about some of the peculiar architectural problems and their solution, and about the restrictions imposed by location, after we have traced the development of the club from its beginning, eighteen years ago. Of course, we must understand clearly what the club has desired to accomplish before we come to description and truly appreciative criticism, because it is of prime importance, when discussing the merits of any new building, to determine whether it is well designed to serve its purpose or purposes. Let us, therefore, consider the main purposes held at the beginning, and cherished even more warmly to-day—purposes which the architect and building committee have sought to express in permanent and attractive architectural form.

The club was started in 1897. The main object was to provide, for the benefit of Yale men who were scattered in various parts of New York City and neighboring cities and towns, the facilities they had lacked up to that time for continuing the traditions of undergraduate life. That was the initial purpose. The national character of the institution came as a later development. The movement was democratic and popular—not headed at first by the most distinguished graduates, though the older men soon gave loyal adhesion. The Yale Alumni Association had about six or seven hundred members at that time. Enrollment for the Yale Club quickly passed that number. The Alumni Association, promptly and unanimously agreeing to the establishment of the club, surrendered its own duties to the new institution, as to a natural successor. The retiring president of the Alumni Asso-

ciation became the first president of the club.

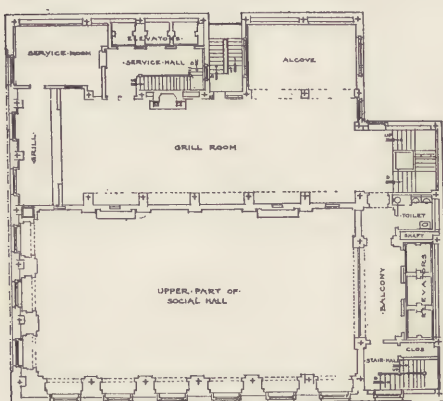
The committee on choice of site selected a house on the north side of Madison Square, which was leased for \$6,000 a year. The Club was a success from the beginning. It was made to pay from the beginning, thanks to hard work by club officers. In membership it grew enormously; and after a surplus of \$25,000 had been accumulated the decision was reached to build a club-house of suitable dimensions in West Forty-fourth Street. This was effected by the formation of a building company, empowered to build and lease to the club—an arrangement which actually has been to such an extent approved by experience that it served as a basis for the subsequent arrangements for the third club building, the subject of this paper.

The building in West Forty-fourth Street (the second club-house) was so constructed that, if the club should fail, it could be turned into a bachelor apartment house, like the Royalton.

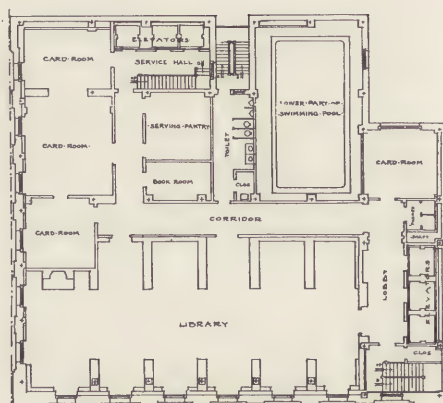
The group of men who started the club—practically the first set of officers—retained their positions for six years, that is to say, until the club was established in the 30 West Forty-fourth Street building. They had decided to see it through. That object having been accomplished, these men all declined renomination. The attitude of influential members has constantly been democratic; of the men holding offices, has been unselfish. In order to secure continuity of tradition, ex-members of the council are always invited to council meetings and often serve on special committees. The club never increased the amount of its dues until this year. It has never received large gifts, but has paid its own way on a business basis. At an early stage of the discussion in regard to the new building, the intimation was received that a large gift (more than \$600,000) was available—with certain conditions attached. It was decided that the offer should be declined. The members preferred to have such donations made to the university at New Haven, where the money was more needed. Ever since the somewhat narrower original object, mentioned above,



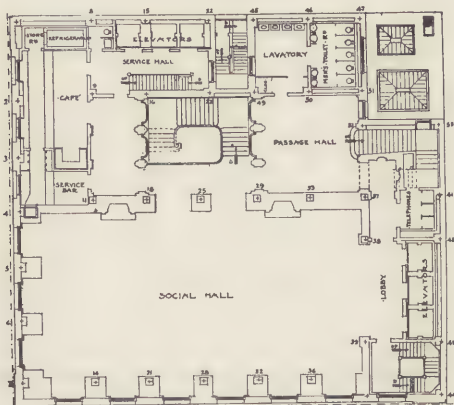
THE YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



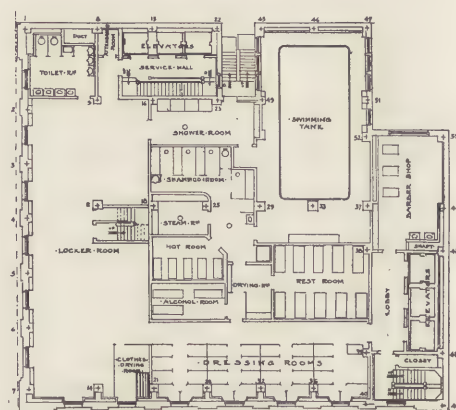
Grill Room Floor.



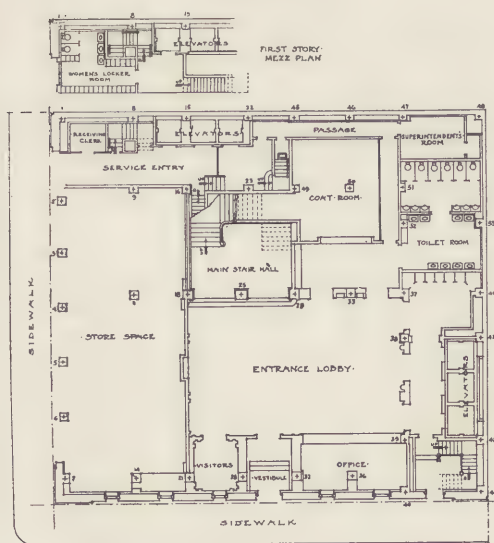
Fourth Floor.



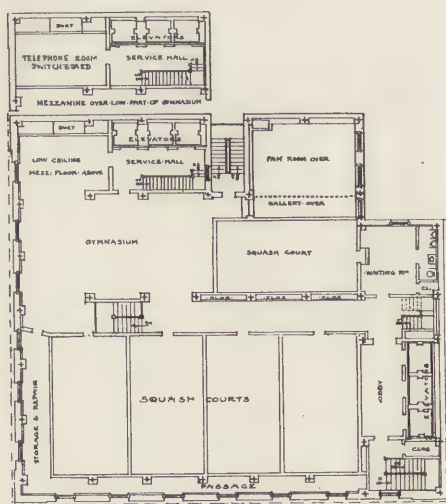
Second Floor.



Fifth Floor.

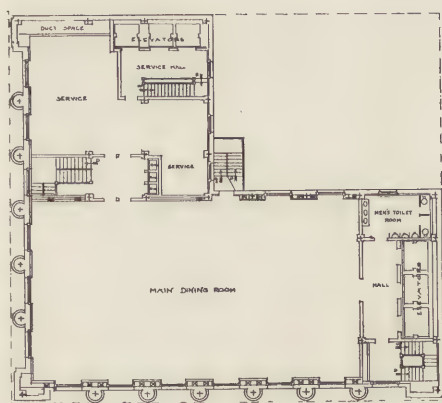


First Floor.



Sixth Floor.

FLOOR PLANS OF THE YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.



Twentieth Floor.

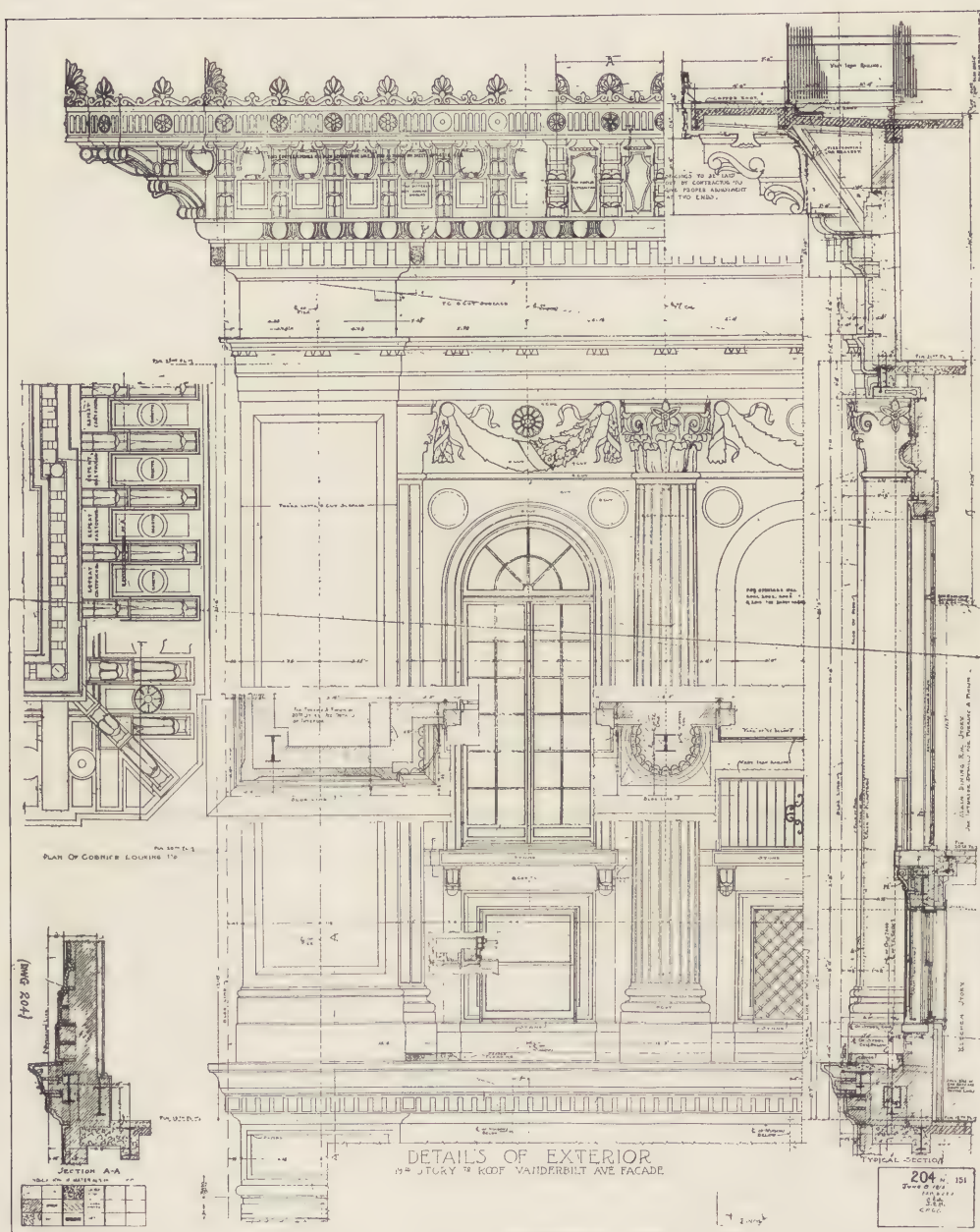
was attained, the aim has been constantly to build up the interests of Yale and to make the club a centre of activity in behalf of Yale in a broad, national sense. Always, therefore, we have been aware of the obligation to offer such attractions to non-resident members as would enable us to realize that destiny. The opinion is held—and with good reason—that in the present building the great attractions and facilities for out-of-town members ought to enable the club to accomplish that purpose in a much larger way, to demonstrate much more clearly than ever before that its real object is to promote the interests of Yale in the largest and best sense. And so we gain a clear idea of the purposes this building expresses. We find that diligence has been exercised in giving to an enormous club-house—with all features and conveniences of the most up-to-date club-houses—the characteristics of a somewhat homelike centre of Yale graduate activity and influence.

The desire to make this the national centre of Yale graduate influence explains the choice of location, directly on the line between cities in all parts of the South and West and the university at New Haven. It explains also the great number of bedrooms and, of course, the corresponding amplitude of assembly rooms. In other words, it supplies justification, if justification is required, of the great size of the building—which is sometimes spoken of as the largest club in the world. But we prefer to speak of quality and real adaptation to the pur-

poses outlined rather than mere size. The principal features of the interior are as follows: On the first floor we find the broad, low-ceiled entrance hall, like an English basement, the office, an exceptionally large cloak-room, telephone booths, elevators, etc. There is access to this floor not only by way of the main entrance (in Vanderbilt Avenue) but also from the subway and that part of Grand Central Station which extends below Vanderbilt Avenue. Arriving by train, one enters the club without leaving cover. The service entrance is in Forty-fourth Street, and all service departments are in the western portion of the house, with a separate elevator system. The second floor is reached either by elevator or a very easy and short flight of steps. Here we enter the very large, high-ceiled living-room or "lounge"—in simple truth a splendidly big room, yet not unhomelike; rather like a large-scale replica of some room in a private house, half remembered, or—in the Palazzo Massimi at Rome (one conjectures); and that palace did, indeed, supply a model for the treatment of this part of the interior. The "lounge" has nine windows in embrasures so deep they might almost be called alcoves. The grill-room is on the second mezzanine; the billiard-room on the third floor; the library on the fourth; Turkish bath, swimming pool and locker-room on the fifth; gymnasium and squash courts on the sixth; bedrooms in undisputed control of all the floors from the seventh



Typical Bedroom Floor.



DETAILS OF EXTERIOR—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



RECEPTION ROOM—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



MAIN STAIR—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.

to the seventeenth inclusive. Here let us say that the aim of the architect and building committee has been to make the bedrooms sanitary and not unreasonably expensive, giving to them the simple and modest atmosphere of the old colonial homes. Private dining rooms are on the eighteenth floor; a rather marvelously modern kitchen on the nineteenth; the restaurant (the main dining-room) on the twentieth; the wine "cellar," together with storage rooms, etc., on the twenty-first; above that still, the roof-garden and (with nothing but one higher building to obstruct it) the superb view over all the island, the rivers, the surrounding country.

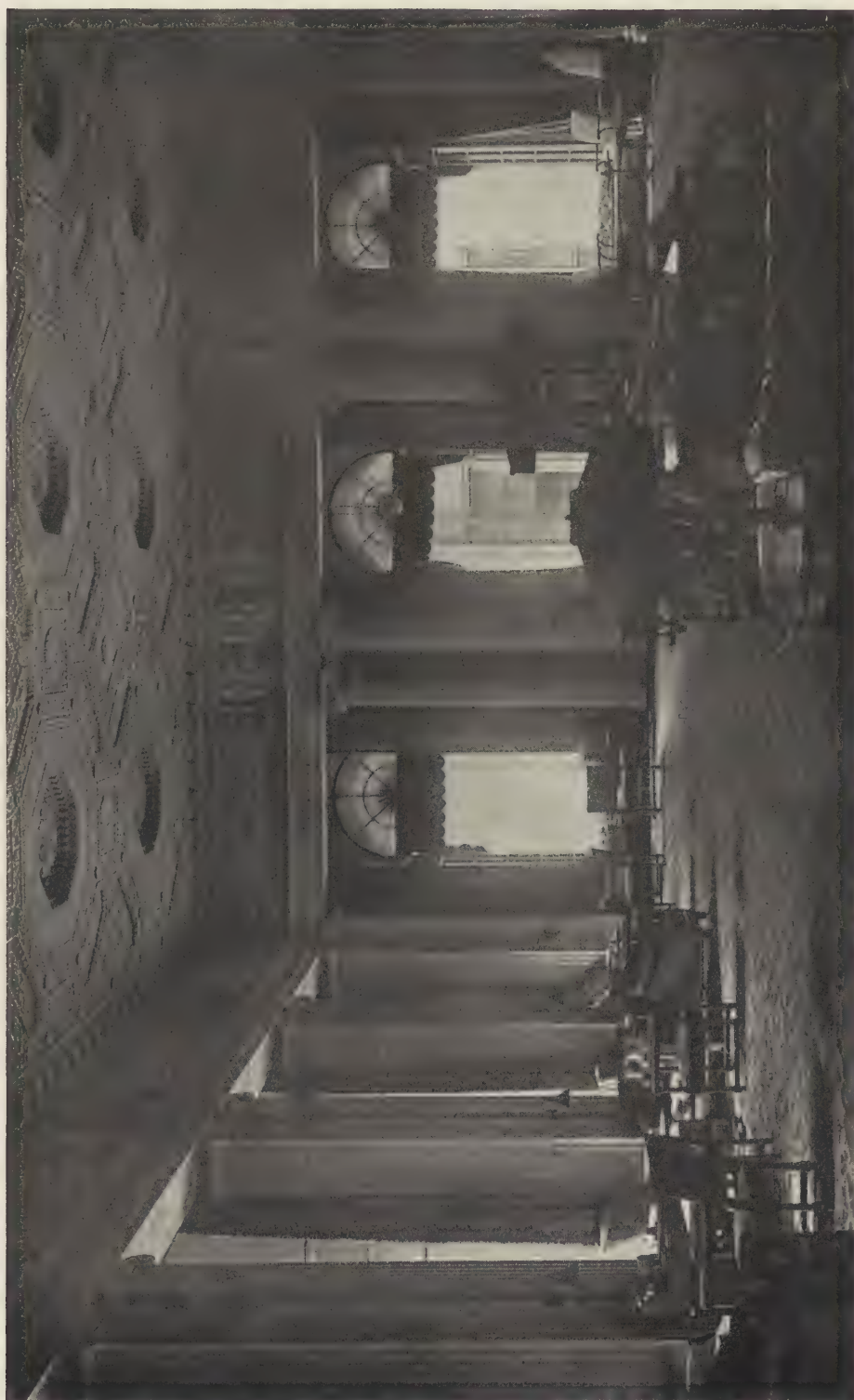
The view from this roof-garden, as one looks out toward the north, includes both the East and North Rivers, extending also over Central Park to the hills beyond the northern confines of the city; on the south it includes all three of the great city towers; on the east, extending over Long Island indefinitely, its boundary is lost in haze; on the west it is clearly bounded by a range of hills not less,

apparently, than twenty miles beyond the Hudson and the Palisades. And the central point in and of the view—if you stop to think, part of the view itself—whichever way you turn, is this flat roof which is to be the garden. Two-thirds of the space here is devoted to open terraces (on the east and south), and in addition there is a large enclosure with glass doors which can be thrown open in hot weather.

Now, if you should go directly from the roof to the fourth floor, you might enter a room extending along the entire eastern front of the building, from elevators and stairway to the Forty-fourth Street façade. There are small balconies outside of the eight windows, and at the farther end of the long room a corner that may become famous—almost certainly will be found to be delightful. I refer to the south-east corner, somewhat less than one-sixth of the entire room, which is set apart, as it were, from the rest of the library, such partial separation being indicated by columns and by an open fire that looks across this snug



ENTRANCE LOBBY—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



LOUNGE (NAMED "SOCIAL HALL" ON THE
FLOOR PLANS, PAGE 314)—YALE CLUB, NEW
YORK. JAMES GAMBLE ROGERS, ARCHITECT.



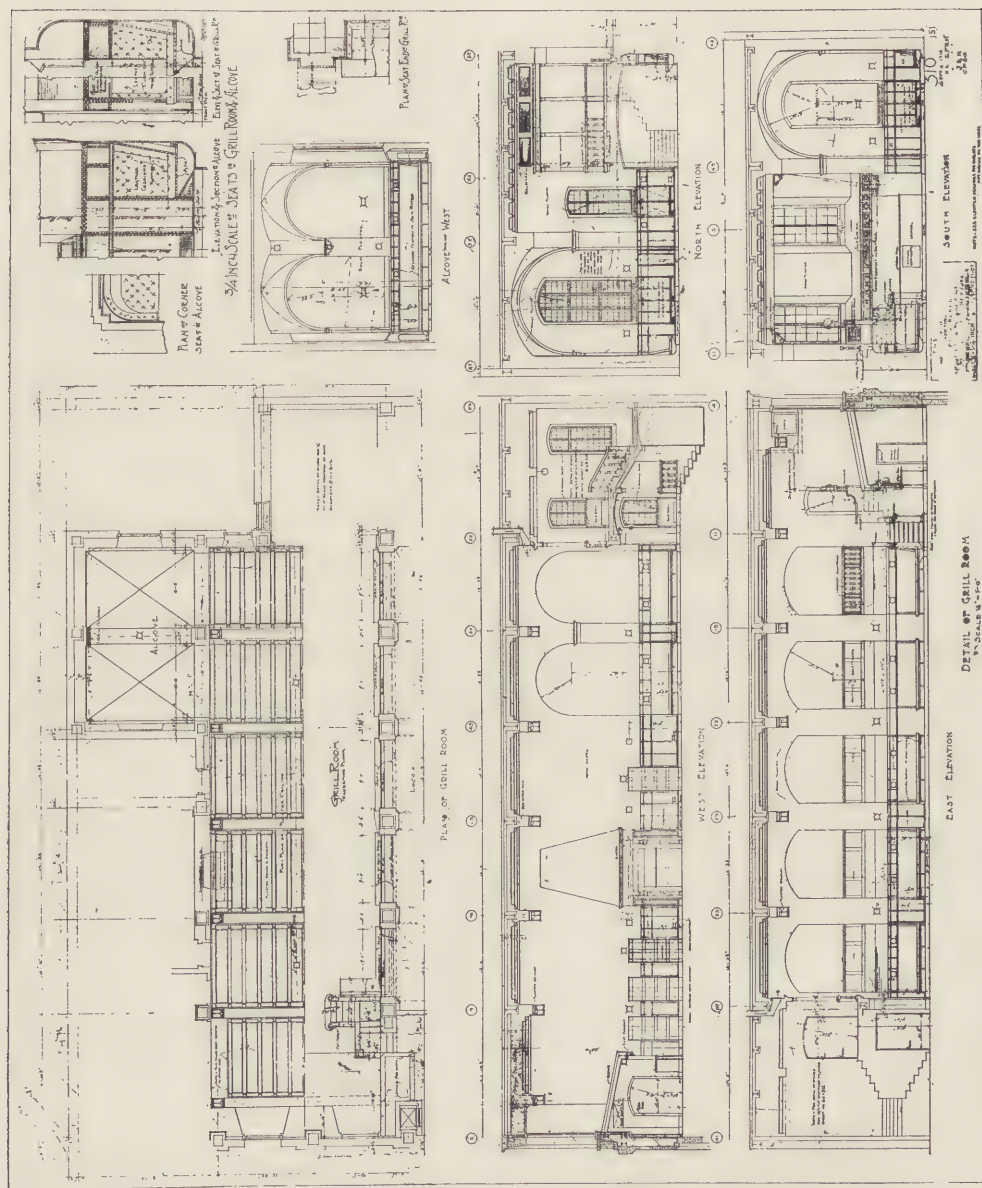
DETAIL OF LOUNGE—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



GRILL ROOM—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



ALCOVE IN GRILL ROOM—YALE
CLUB, NEW YORK. JAMES
GAMBLE ROGERS, ARCHITECT.



DETAIL OF GRILL ROOM—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



STAIRS TO LOGGIA IN GRILL ROOM
—YALE CLUB, NEW YORK. JAMES
GAMBLE ROGERS, ARCHITECT.



BALCONY IN GRILL ROOM—YALE
CLUB, NEW YORK. JAMES
GAMBLE ROGERS, ARCHITECT.



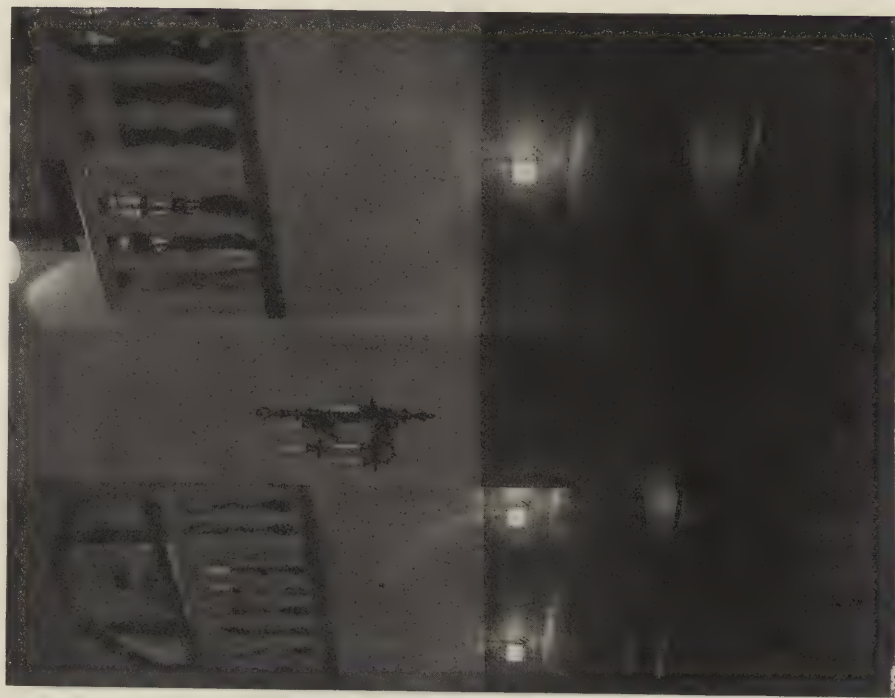
STAIRS FROM GRILL TO BILLIARD
ROOM—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



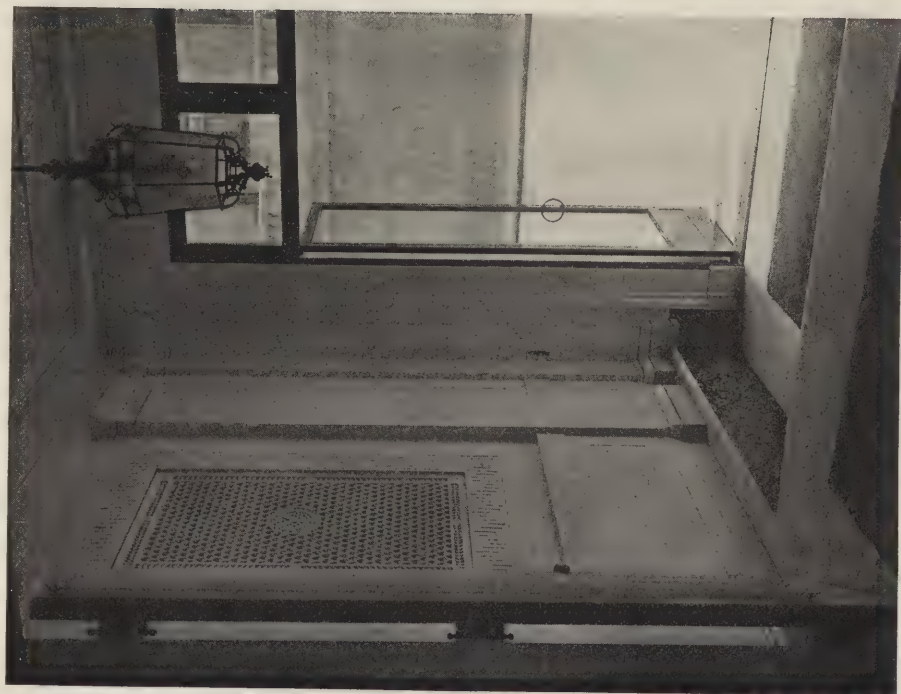
LOGGIA OF GRILL ROOM—YALE CLUB, NEW YORK
James Gamble Rogers, Architect.



CORRIDOR ON FOURTH FLOOR—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.



DETAIL OF GRILL ROOM—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.



ENTRANCE VESTIBULE—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.



BILLIARD ROOM—YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



LOOKING FROM BILLIARD ROOM TO
GRILL—YALE CULB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.



LOBBY OF BILLIARD ROOM—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



CORNER OF READING ROOM—YALE CLUB, NEW
YORK. JAMES GAMBLE ROGERS, ARCHITECT.



THE LIBRARY—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.

end. A reader, it would seem, might rest, facing the open fire, or the mantel, which is of an interesting and original design, and so, with good light from the window at his left and from the window behind him, might actually read—or talk. Otherwise, the succession of quiet and secure alcoves in the much larger part of the room provides a vista that may be fancifully likened unto the views up there on the twenty-second level; and on the well-planned shelves in those alcoves our reader may discover, some day, all the best things—the only things you can always, directly and readily, go to after looking at and thinking about those views over New York, without an intellectual, as well as a physical, drop. Excellently sketchy are the low-reliefs on the vaulted ceiling. On the ceiling above the inglé, an appeal to sentiment by evocation of the Old Brick Row; but, above the alcoves, very decorative small figures reminding us of designs Roman and Pompeian. No strong colors are used in the decoration of these walls; nevertheless pure white, the real

white, has been rejected in favor of carefully chosen subdued tints.

And this is the rule throughout the building. Exceptions are the dining rooms, general and private, and the billiard and grill rooms. The walls of the private dining rooms especially, here and there, in vivid coloring not less than the emphatic (in a single instance even labored) drawing of the designs, challenge attention peremptorily. The principle of art-criticism that applies to this matter can be clearly stated; and it seems best to enforce it by means of citation from a book written in defence of the free and liberal employment of colors on interior and exterior surfaces. "Perhaps the Italian architect, Palladio, who flourished in the sixteenth century," says Mr. Ward in his work on *Colour Decoration of Architecture*, "was really more responsible than Puritanism for the fashion of colourless buildings, for he was one of the first who regarded colour as an evil thing, as he has said that 'white was more acceptable to the gods' . . . Much as we all love colour we seem to



SMALL CARD ROOM—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



CARD ROOM—YALE CLUB, NEW YORK.

James Gamble Rogers, Architect.

be afraid to get too far away from white, or very pale and neutral tints, in decoration. We appear to be too timid, or anxious not to offend the Palladian taste of the public. . . .” Palladian taste prevailing in other parts of the building, such revolt against it as these walls declare might naturally be expected to challenge attention by striking contrasts, as we have said; and reconciliation of the hostile extremes may be effected, we think, not by the softening touch of the hand of time alone. In the grill-room, by way of compensation for the absence of windows, the idea of space, or breathing-space, is suggested by large paintings of Neapolitanesque landscapes which are, of course, to be regarded as decorations merely. This is an absolutely correct device; and the same thing is true in respect to the space-adding quality of the ceiling—unquestionably the conventionalized pergola, I should say, though remotely derived.

The club rooms are interwoven in such a manner as to give them the greatest unity possible. Thus, from the ground

floor you go up a one-half flight to the general assembly room, known as the lounge; then one-half flight to the grill-room, and one-half flight to the billiard-room. The library is not quite taken into this intimate system for the obvious reason that it, as the literary and scholarly centre of the club's life, should, of course, be a little more secluded and withdrawn.

And now we shall round out our view of the building by considering, as we have promised, some of the peculiar architectural problems and their solution—the difficult questions that arose when the task of planning its construction was resolutely undertaken; at this point dismissing with a word the obligation, ever a matter of course in a club of this kind, to keep considerably in view the practical side, all that makes for efficient and economical maintenance, and not less considerably to keep in view the demand that the house should be an artistic production and a scholarly piece of work.

Well, then, we mention first a difficulty of construction on this particular lot due to the fact that there are two



MAIN DINING ROOM—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.

stories of railroad tracks running under the building and for this reason the columns supporting the club could not be placed where the requirements for the building called for them, but had to be so placed that they would not interfere with the clearance requisite for railway trains. Moreover, the vibration from the railway trains had to be avoided. This was done by having the columns of the building go clear to the ground without using the columns of the railroad structure.

The Grand Central Terminal property in that vicinity is built up on steel columns and steel beams, and it can readily be understood that, with the expansion and contraction of steel, there have to be expansion joints every short distance, allowing for the change in dimensions caused by the changes in temperature.

On inspection, you will notice that at the bottom of the club-house there is a $\frac{3}{4}$ -inch space of mastic material, just a few inches above the sidewalk. The sidewalk can move independently, so to speak, inasmuch as the movement is taken up in this mastic material. Again,

the front of the building is carried on columns five feet seven inches behind the façade—that is, inside the building—and the movement of the building is independent of that of the sidewalk.

Other difficulties of construction are caused by the inherent nature of a club building of this size. We have to deal here not only with an extensive system of small rooms, used for bedrooms and minor offices, but also with a number of large assembly rooms to accommodate at one time many people. These large rooms, to be effective, had to be without columns. This necessitated tremendous spans, carrying the superstructure. The spans are themselves carried on beams and girders, those of the basement being about eleven feet deep.

In the category of difficulties it is natural to place a regulation of the New York Central Company applicable to all buildings of the group on the company's property near the Grand Central Station. In view of this regulation it is necessary to say that entire freedom was not granted to the architect in regard to such



PRIVATE DINING ROOM—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.

important matters as the height of the structure, the material to be used, etc. On the contrary, his talent was exerted to effect a successful accommodation of an ideal design, or, let us say, a compromise between the ideal and prescriptions as to material and the maintenance of a certain cornice-line—the regulation calling for a well defined cornice at a level of about eighty-one feet above the street. Now, beyond all question a part of the “spontaneous and free expression” was sacrificed; yet we must not for that reason make haste to assert that the Guadet principle, “Art has the right to be free,” has been violated. No, it most positively has not. That fraction of the “liberty” commended by the distinguished French teacher which has been surrendered is exactly the fraction which is to be serviceable in a vastly greater design. Looking forward, we appreciate the Yale Club building as a well-designed part, eventually a very small part, of an architectural unit that may prove to be of the very first importance in the harmonious development of this section of the city.

The regulation we have mentioned is apposite not only to buildings adjoining the terminal but apparently to the entire group of buildings on New York Central land in that vicinity. When this group is finished it will probably be the best and most potent example in our country of the good effect an all-embracing regional design can have, when it works out brilliantly; thus showing other American cities the advisability of attempting, at least, to secure the kind of architectural dignity that is unfortunately seldom found in the avenues where our most expensive and individually beautiful buildings are located.

And now a word touching the execution of the work.

Contrary to the recent practice of having competition for buildings in which there is such a diversity of interests as in a club-house, the building committee decided, after considering the matter thoroughly, to have no competition, but to investigate with due care and to select an architect who could best handle this problem. Not only did they dispense



LARGE PRIVATE DINING ROOM—YALE CLUB, NEW YORK. JAMES GAMBLE ROGERS, ARCHITECT.



BEDROOM—YALE CLUB, NEW YORK.
James Gamble Rogers, Architect.

with competition in regard to the architect, but also in the choice of the contractor. This was done because the committee believed that this method would save time, save money, and, as tending to favor good team work by the architect and contractor, produce a better building. In point of fact, co-operation between builder and architect has existed from the beginning of this enterprise.

The members of the committee feel that their expectations have been realized.

Even before the plans were made, committeemen, when they first decided to build, had regular weekly meetings at which all questions were brought up and the most important matters decided. This arrangement prevented delays, which so often occur when meetings are infrequent, and enabled each member of the committee to present his own views on every question "without fear or favor," that is, with entire freedom; and to the liberty granted to individual suggestion and initiative the unconventional or free treatment of some details of the interior fairly corresponds.

There arose, naturally, a great many unusual questions. The planning of a club-house of this size is complicated, and presents a problem which is two-sided. On one side is the problem of the large, modern, fireproof building that should be handled in a broad way, as such buildings require; on the other hand, the individual and residential touch that has to be given to every part of the club. The latter can be given only by dint of such painstaking, even meticulous, attention as is required in the arranging of the details of a family residence. The endeavor has been to achieve a homelike atmosphere, although the large size of the building necessitated a solution really on a monumental basis, which had to be reduced in scale by home touch; to make not a club-house merely for the New York graduates, but really a home in the metropolis for all the Yale visitors: in other words, not the Yale Club of New York, but THE YALE CLUB.

To accomplish this, of course, there had to be a large number of rooms for graduate visitors. Now, it may be conceded that ample provision for non-resi-



SWIMMING POOL-YALE CLUB, NEW YORK.
JAMES GAMBLE ROGERS, ARCHITECT.

dent graduates would have been made if the committee had placed a club-house on the corner, and, on the adjoining lot, another building containing the necessary rooms, with a separate entrance for those using the rooms. This, however, would have necessitated a duplication of the managing force, and it would not have given members any equivalent for the light, large and beautiful rooms in the upper portion of the building, for the fine views, or for the roof-garden, high above all noisy and smoky levels.

The choice of site was made after long consideration as to the locality that, for the greatest number of members, would be most convenient; there appears to be, therefore, excellent ground for the hope that Yale men from out of town who come to New York will have a place where they can meet old friends and renew their interest in the old associations.

In conclusion, a few notes illustrating the plan of construction.

It was figured that only two service elevators would be required for the service personnel of the club, yet a third elevator was added, in that western end of the building. At the opposite (north-east) end, the passenger elevators for members are situated. In case of panic caused by fire—which would, by the way, be harmless in such a building—the group of elevators in the opposite end of the house could always be used.

This building is as fireproof as a building can be made. With the exception of the wood floors in the dining room and lounge, there is practically no wood in any part of it, other than the furniture. The floors throughout are of marble, terazzo, tile, or cement. The trim around the doors in all cases is made of steel, and in many cases the doors also are of steel. Throughout the service departments (concentrated near the service elevators) moldings are eliminated, and the finish is "hospital construction" of the most modern type. This not only prevents accumulation of dust on the moldings, but also facilitates cleaning and maintenance.

In order as nearly as possible to approach (we do not say attain) the residential appearance, by any lawful modification of the exterior, it was decided to reduce the scale of the building by diminishing the size of the window openings. It is interesting, for this reason, to compare the window openings of the club with those of the adjacent buildings. The club's are smaller, indeed, and yet on examination it will be seen that they are in reality of ample size.

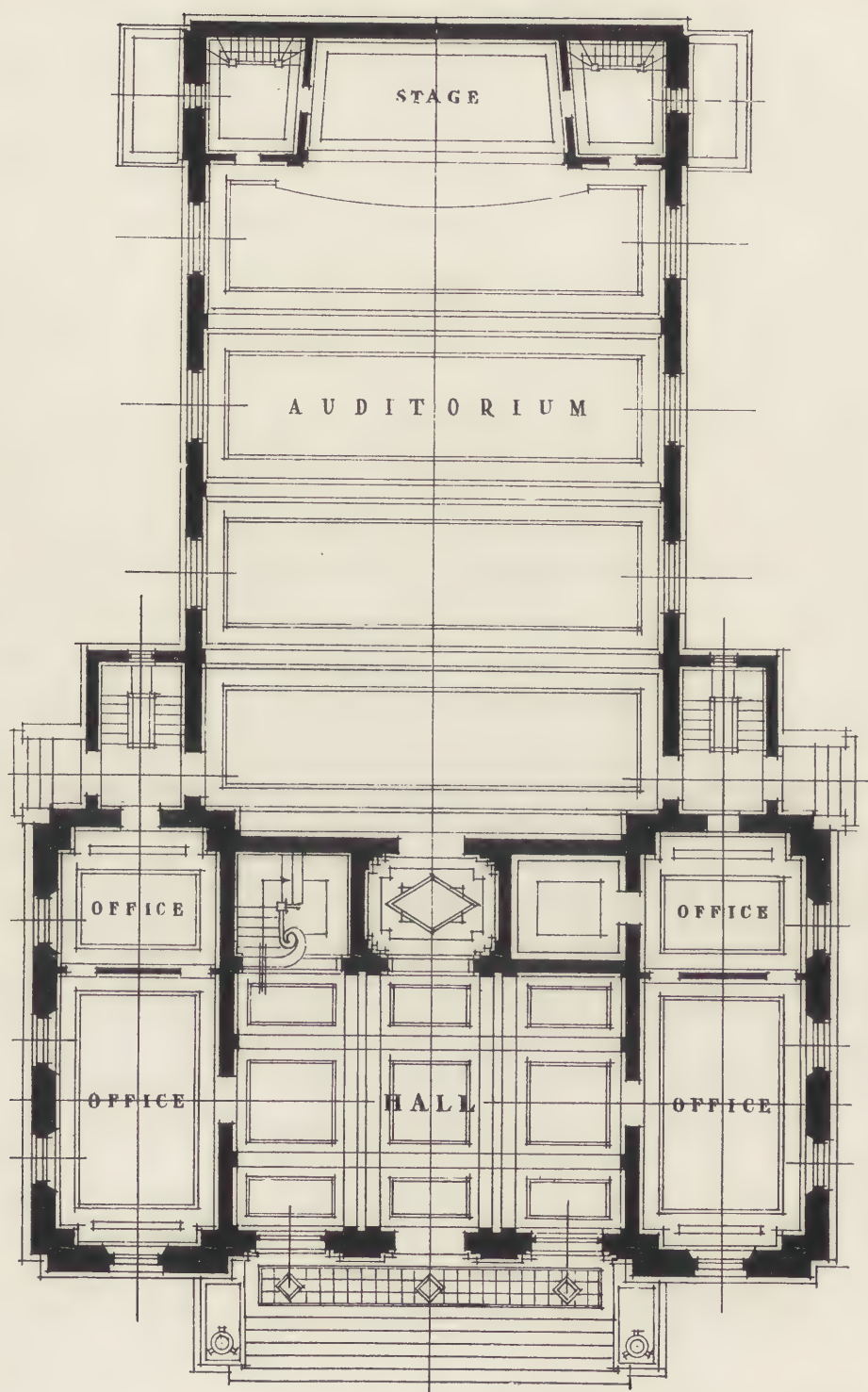
There is no feature of the new Yale Club-house that has not been passed upon by at least two outside experts, selected as the best men in their professions or business, and, moreover, every plan has been passed upon, with reference to its utility, by both architect and builder.

PORTFOLIO
OF CURRENT
ARCHITECTURE



ROSE

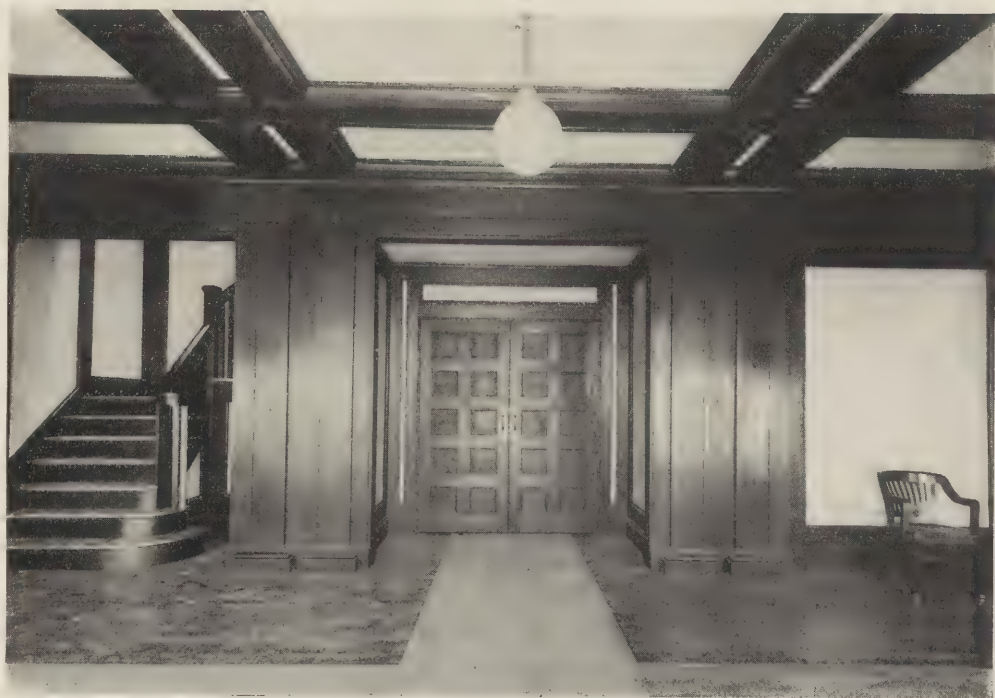




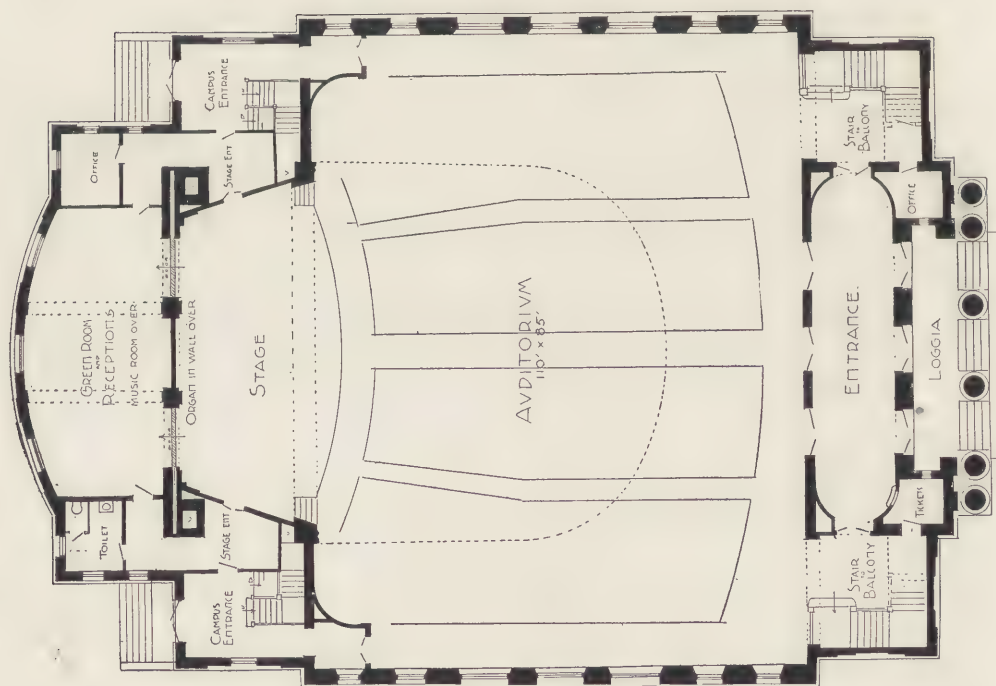
FIRST FLOOR—TOWN HALL AT BOURNE,
MASS. JAMES PURDON, ARCHITECT.



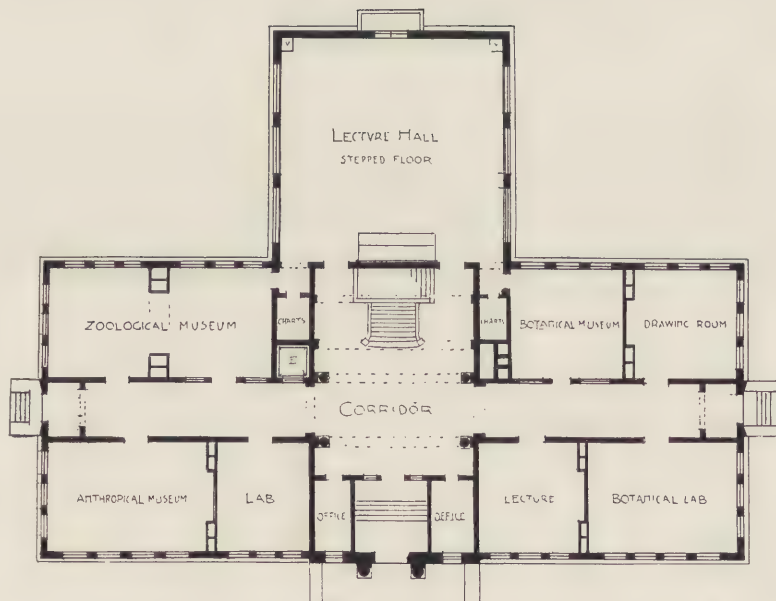
TOWN HALL AT BOURNE, MASS.
James Purdon, Architect.



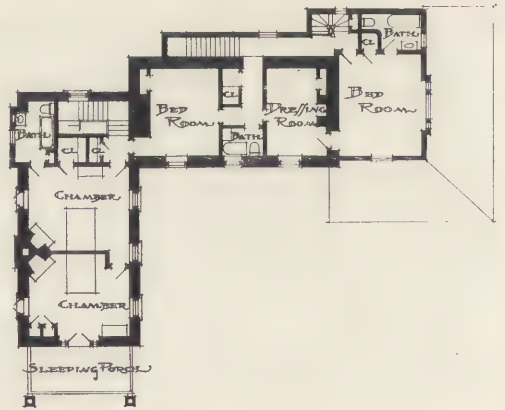
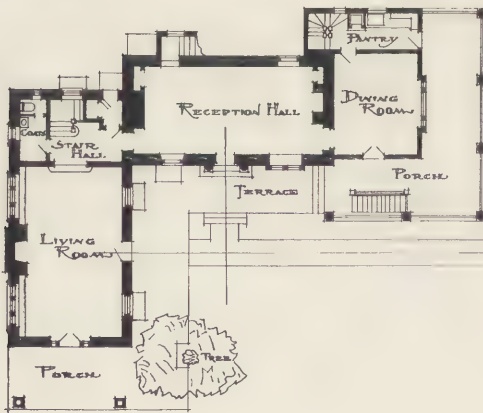
ENTRANCE HALL IN TOWN HALL AT BOURNE, MASS.
James Purdon, Architect.



GREEN HALL AUDITORIUM—SMITH COLLEGE, NORTHAMPTON, MASS. CHARLES A. RICH, ARCHITECT.



SMITH COLLEGE LABORATORY, NORTHAMPTON, MASS. CHARLES A. RICH, ARCHITECT.



RESIDENCE OF HOWELL LLOYD, ESQ., VILLA NOVA, PA. BAILY & BASSETT, ARCHITECTS.

A Seventeenth Century New England House ➤



By D. Millar

AT Topsfield in Massachusetts, not far from Danvers and historic Salem, is one of the best preserved houses of the earlier Colonial period. Built in 1683 by the Rev. Joseph Capen, minister of the Topsfield church during the witchcraft delusion, it now belongs to the Topsfield Historical Society, for whom it was carefully restored by George Francis Dow, Secretary of the Essex Institute of Salem, who is a resident of Topsfield.

Georgian architecture of the later provincial period is fairly well known to most people, but houses built as early as this in the olden days of the "Colony of Massachusetts Bay" differ so radically in arrangement and construction from those of the later period that a study of this excellent specimen cannot fail to be of interest.

The little band of Englishmen who arrived at Salem in 1628 and laid out the first streets of that famous town no doubt at first were content to dwell in the simplest manner in houses of rudest construction, but with settled conditions larger buildings were erected. These were nearly all built according to one plan. So much alike are these old wooden houses that remain that one would fancy for them a common inspiration. Probably necessity and economy of materials and labor dictated the plan which could not have been much simpler. In the centre was a great "stack of chimneys," as old records phrase it, on either side of which was a room, with a narrow entry in front of the chimney stack between the rooms. In this entry was the staircase. Four rooms and an upper and a lower entry was all the accommodation afforded, but the rooms were large and must have been more

comfortable than people now imagine. All through the Massachusetts and Plymouth Bay colonies as well as in the Connecticut settlements this one plan persisted. In Rhode Island the houses were usually of one room and entry on each floor—half the size of the Massachusetts type just described. Besides these wooden houses there were numbers of stone and brick houses of a different plan, but these are outside the scope of this article.

In nearly every case the house faced south, with the "hall" or general living-room, dining-room and kitchen combined, on the east, and on the opposite side was the "parlor," a room which served for retirement, and for the entertainment of special guests. In practically every case, such being the custom of the time, the parlor contained a bedstead. In each room a great fireplace held a roaring fire of logs in its cavernous depths, and on the second floor the two "chambers" had smaller fireplaces though these were sometimes lacking.

The framework of these houses was usually of oak, though sometimes, as in the Ward house in Salem, the frame was of pine, made of heavy timbers mortised and tenoned together and held in place by wooden pins. Their joints were hewn with much skill by men who built according to the manner of their trade learned in England, and who worked as their medieval forefathers had done. The foundation timbers rested on underpinning of fieldstones, laid without mortar. These timbers were called the "sills." At the four corners were posts, two at each end of the house, two in the rear wall beside the chimney, and two more in the front wall at the entry—as will be seen by a glance at the accompanying diagram. Across the house

at the level of the second story were framed the girts—usually six in number—on sides and ends and also the two flanking the chimney.

Spanning the rooms were other girts called "summer"* beams. In the Massachusetts Bay colony these usually ran north and south from the front to the rear girts, but in the Plymouth and Connecticut settlements they commonly ran from the end girts to the chimney girts. Into the upper parts of the summers and the girts the joists of the floor were mortised, and they supported the boards of the floor above. Early roofs were steep in pitch (in this house the pitch is fifteen inches to the foot) and very simply framed. The boarding under the shingles ran up and down instead of across the rafters as at present.

One of the most noticeable features of these old houses is the overhang of the second story on the front, and often on the ends also, and the third floor overhang of the gable ends. The overhang is a form of timber construction common in old English work and seems to have been done solely for its architectural effect.

Overhangs were constructed in two ways. The "framed" overhang was the older form in the colonies, and is the one illustrated here. The other form was the "hewn" overhang where the posts were very large and the lower part was hewn away so that the face of the first story wall receded several inches from the face of the second story wall. Gables on the front of the house were found only in Massachusetts colonies and in Rhode Island. They were unknown in Connecticut. Anyone desirous of seeing a house with such gables should visit the old Ward house in the grounds of the Essex Institute at Salem.

The accompanying illustrations show the front and end overhangs clearly, together with the ornamented ends of the second-story corner posts in front, which terminate in hewn "drops." Beside the front door and under the gables are brackets that support the overhangs. Usually

the ends of the front and rear topmost girts (known as the "plates") which support the rafters are supported by brackets but in this house their place is taken by drops, which are here no longer parts of the frame, but merely ornaments.

The top of the chimney is a copy of that of the old Hunt house in Salem, which was erected some twenty years earlier than this house. This restored top, owing to a mistake of the bricklayer, is too thin, but gives the right effect when seen from the front. The windows are the exact size of the originals and have been restored with casements with square glazing rather than the more common lozenge shape. The front door is studded with nails in a diagonal pattern like the "Indian door" preserved at Deerfield, Mass., and the iron latch ring is also a reproduction.

The view of the entry shows the staircase with its original newel and turned balusters of oak. It will be noticed that the brick work of the chimney is exposed—a sure sign of early work. The framing of the floor joists can be seen also and the floor of the entry is some inches lower than the rooms.

In the parlor may be seen the rather rare feature of two summers. The walls are plastered, a sign of wealth on the part of the builder, and on either side of the fireplace may be seen doors to the closets. Some of the chairs in this room are old, but the table and fine oak chest are copies of originals of the period of the house in the museum of the Essex Institute. Under the ends of the summers at the left of the picture is incised with a chisel the date "IUN Ye 8TH 1683"—so there exists here what is not to be found elsewhere in so old a house, the exact date when the frame was "raised." The chamfering of the summers is plainly seen.

In the old "hall" is another large fireplace with its trammel bar (an arrangement earlier than the crane) holding pots and kettles. On the right is the door to the oven. The old settle with its low table and cider mug suggest "solid comfort." The walls of the hall are finished with the common finish of early days, broad horizontal boards with

*From the Latin *sagmarius*—the root of *sumpter*, a pack-horse, because they bore the weight of the floors.



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CAPEN HOUSE, TOPSFIELD, MASS.,
BUILT IN 1683. NOW THE PROPERTY OF
THE TOPSFIELD HISTORICAL SOCIETY.



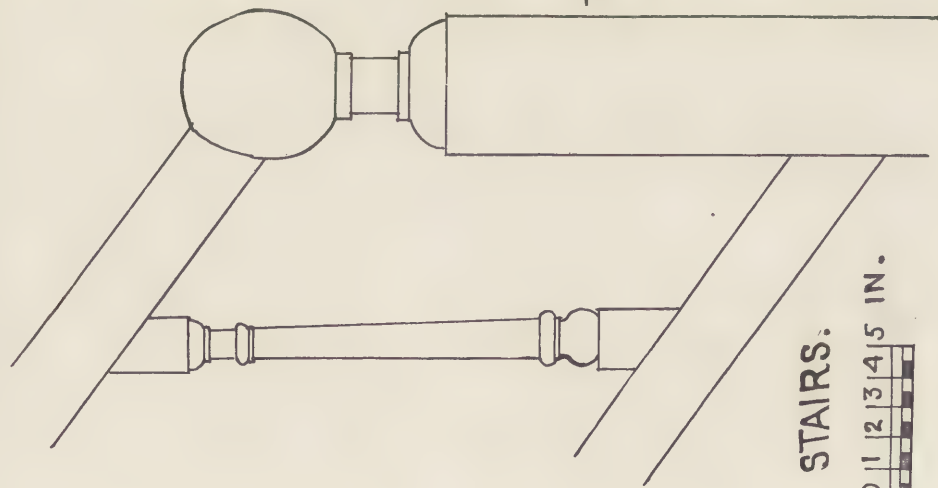
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DROP, OVERHANG AND CASEMENT WIN-
DOWS—CAPEN HOUSE, TOPSFIELD, MASS.

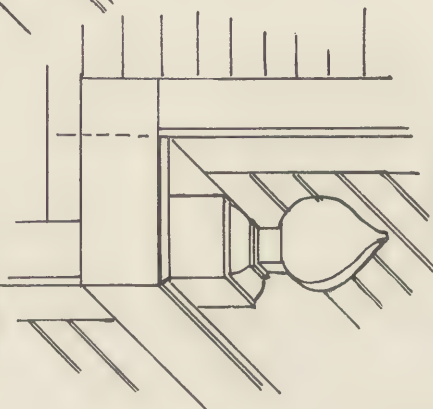


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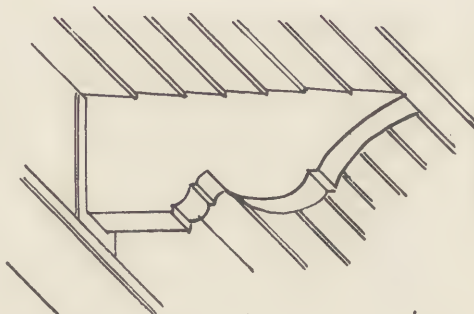
FRONT DOORWAY—CAPEN
HOUSE, TOPSFIELD, MASS.



FRAME

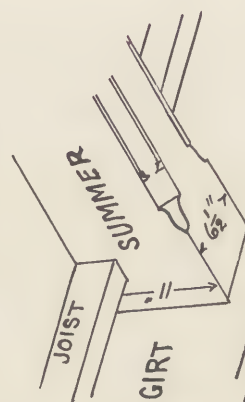


DROP



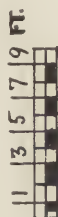
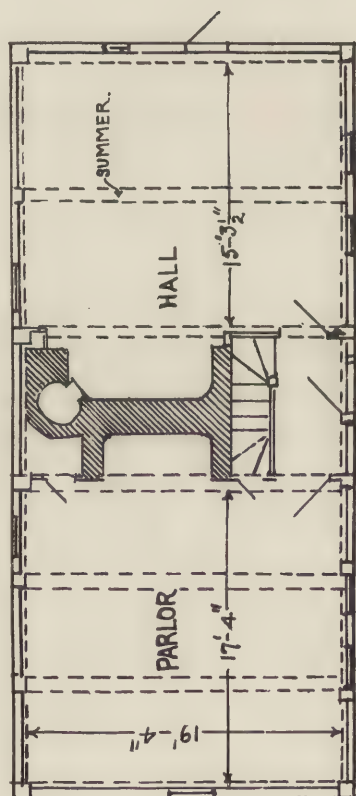
BRACKET

THE CAPEN HOUSE
TOPSFIELD, MASS.
1683.

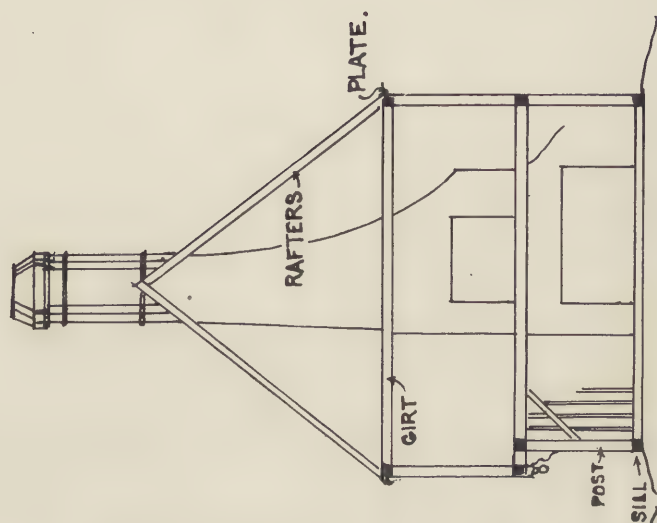
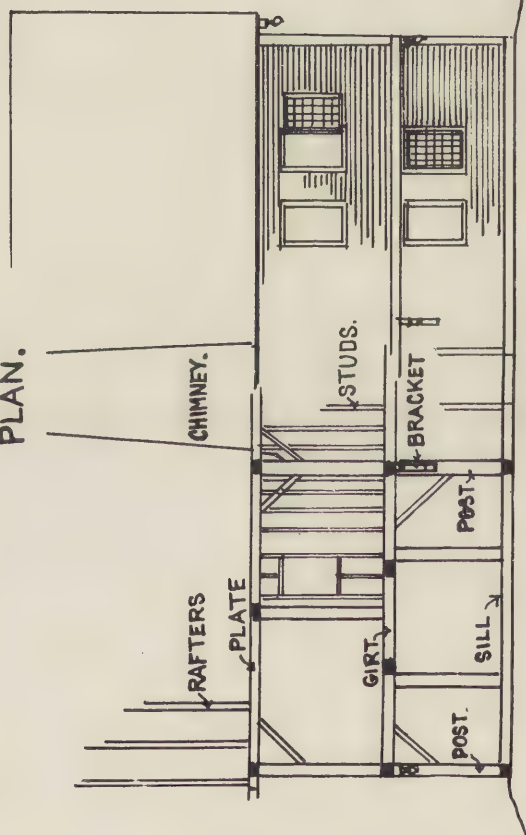


STAIRS.
0 1 2 3 4 5 IN.

SUMMER IN PARLOR



PLAN.

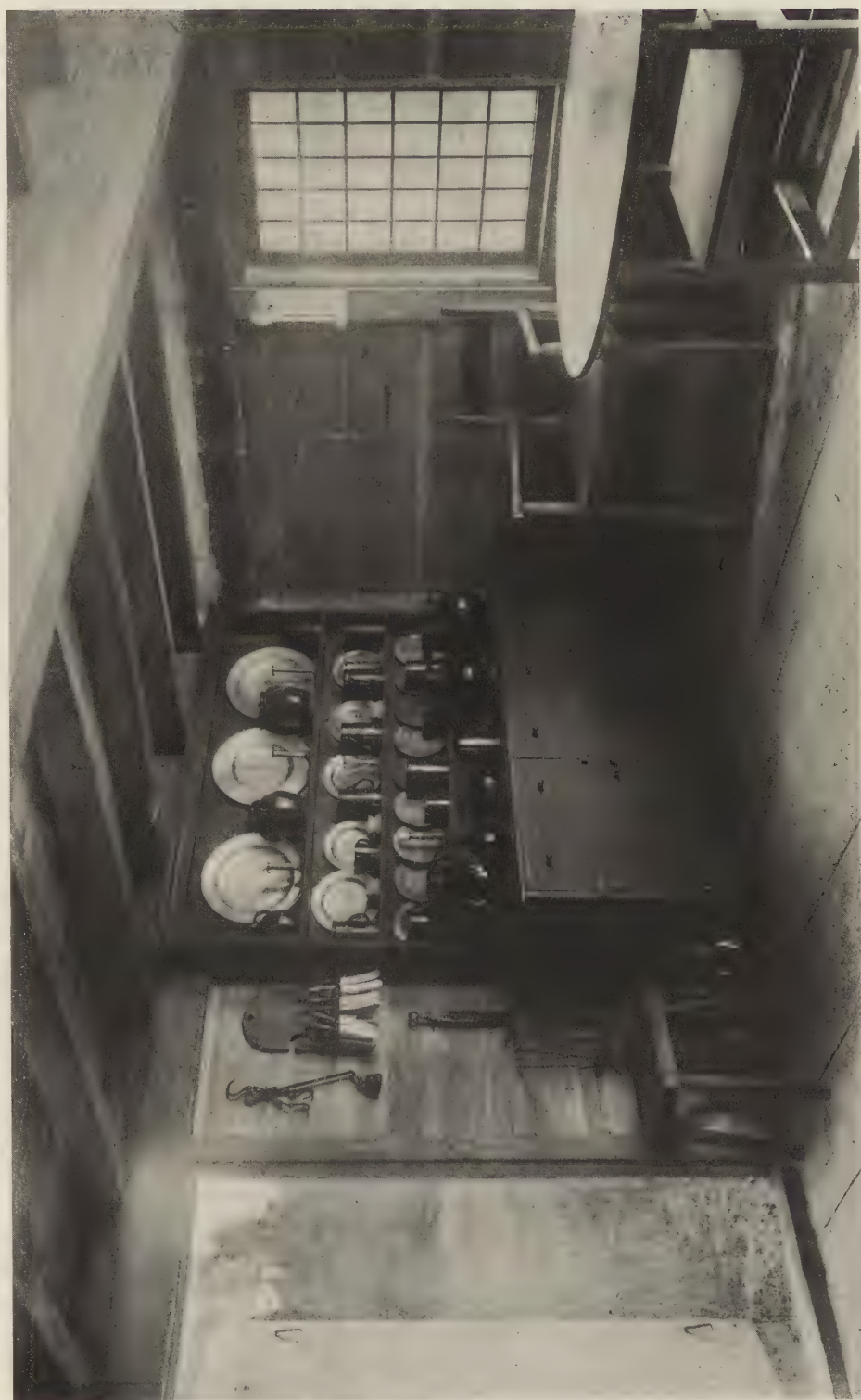


DETAILS OF CAPEN HOUSE, TOPSFIELD, MASS.
MEASURED AND DRAWN BY D. MILLAR.



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THE ENTRY, WITH PARLOR BEYOND
—CAPEN HOUSE, TOPSFIELD, MASS.



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A CORNER IN THE HALL—CAPEN
HOUSE, TOPSFIELD, MASS.



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HALL FIREPLACE-CAPEN
HOUSE, TOPSFIELD, MASS.



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OLD LOOM AND UTENSILS IN
CAPEN HOUSE, TOPSFIELD, MASS.



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THE PARLOR — CAPEN
HOUSE, TOPSFIELD, MASS.

molded edges called "wainscot." Another illustration shows the old dresser with its store of pewter and an old "knife and spoon rack." Forks were practically unknown in New England before 1670 and were not in common use until the beginning of the eighteenth century.

In this connection it may be noted that it was the custom in early Colonial times in making inventories on the occasion of deaths, to specify in great detail the contents of each room, a mental picture thus being supplied of household furnishings and customs.

The timbers of the framing of course are old, but most of the interior woodwork, all of the shingles and clapboards (of red oak) are new. While so much restoration work gives a new appearance to the house, it serves to show how the houses of this period looked when fresh from the hands of their builders. The walls were left unpainted and in time, from age, smoke, and sunlight, the old wood acquired a soft brown tone and a satin-like texture that cannot be imitated. Another sign of age is to be found in the projection of the sills into the rooms. In later work they were concealed by the floor boards.

The parlor floor of this house has a lining of clay mixed with straw between the joists, which makes the floor warm, as there is a large cellar under each room. Old floors were sprinkled with sand or left bare. Between cooking, weaving, spinning, housecleaning, sewing and mending there were few idle moments in the life of a housekeeper in the olden time.

The purchase of this fine seventeenth century dwelling, built when Charles II. was king, together with over an acre of land, was made possible a few years ago by gifts to the Topsfield Historical Society. The situation is an ideal one—the house standing on a knoll shaded by several trees, and with plenty of open ground around. The fine oak frame; the original fireplaces, one four by six feet, and two and one-half feet deep, the other four by eight by three feet deep, with an oak lintel sixteen inches square; the overhanging second and third stories, together with the drops, brackets and verge boards—unusual architectural embellishments—the evidence of the original existence of which was found during the work of restoration, all contribute to make this house the finest seventeenth century dwelling now existing in New England.

At the completion of the restoration the Society entertained its guests at an old-fashioned "house-warming." The rooms were lighted with candles, and as the date was January 16, 1914, fires blazed in the great fireplaces, and a supper was served in the seventeenth century manner, consisting of baked beans, salted meat, brown and rye bread, Indian pudding, pan dowdy, and pumpkin and apple pies, served on wooden "trenchers" and eaten with broad-bladed steel knives and pewter spoons—no forks! The table linen was hand-woven, and the cider and milk were served in tall black-glaze mugs.

The house is open to visitors; a caretaker is in residence, and the rooms contain much that is of interest to the student of things colonial.



Clare in Museum Galleries

*The Psychological Factor
in the Lighting Problem*

By Benjamin Ives Gilman



Part II ~ The Nave Plan versus The Court Plan

OF the two novelties of construction embodied by von Klenze in the Old Pinacothek in Munich in 1826, one—its top-lighting—the previous article has sought to prove a defect. The other—its corridor plan—the following pages will seek to prove a merit. As often happens, the defect was copied because it was easy to do so, and the merit dropped because it was difficult to do otherwise. In explaining his design, von Klenze stated his purpose to make it possible to reach the pictures of any school without passing through space devoted to those of any other. The unit of museum planning was not, according to this architect, an exhibition room, but an exhibition room with a passageway adjoining; the room in his plan being divided into two, one top-lighted as the chief gallery, and the other side-lighted for smaller pictures. This determination of the museum unit as a room plus a corridor recognized the basic nature of a structure devoted to permanent exhibition. A building through which people move to inspect any or all of certain classified contents demands freedom of direct communication between any two of its individual spaces.

The expansion of museums and of their office during the century since the planning of the Old Pinacothek has emphasized this demand for freedom of access in complicating it. The accumulations have emphasized it in leading to the frequent rearrangement of rooms. Their wider use has emphasized it in admitting the particular study of a single room by a class or audience under a leader or lecturer. Unless access to others can be had independently, the closing of a room for either purpose deprives visitors of the use of a whole

suite. Again, their wider use has complicated the requirement of access in assuming both in theory and practice a tripartite form. This was signified in 1870 for art museums in the words "Art, Education, Industry" on the seal of the Museum of Fine Arts in Boston, and was first formally stated for all museums in Dr. Bather's Presidential Address in 1903 as inspiration of the public as a whole, instruction of the interested, and investigation by the specialist.¹ Corresponding to this triple division, the unit of museum planning has become an arrangement of three rooms with two intercommunicating corridors between.

There is one plan for a museum building which may be called the standard, in that no other one plan has been so often adopted; and by great good fortune its development in certain museums already expresses this triple unit. This plan provides exhibition space in two floors about two large areas open to the roof or the sky and separated by a structure used for entrance. In many museums the interior areas also are utilized for exhibition. In a number of museums, including one of the oldest buildings now used for museum purposes, the Naples Museum (1587), the external space consists of a double suite of rooms, inner and outer. Three museums lately built give the inner of the two secondary spaces the dimensions and use of a corridor, opening into the ground floor spaces on either side. These are the Art Institute in Chicago (1893), the Kelvingrove Museum in Glasgow (1901) and the Museum of Fine Arts in Boston (1909). This corridor variation of the standard plan, affording three

¹F. A. Bather: "Address as President of the Museums Association," *Museums Journal*, London, September, 1903, pp. 71 ff.

kinds of space—the large interior areas and the upper and lower exterior rooms, with corridors between—offers a home for the modern triple unit. The corridors are intercommunicating and the rooms on either hand may be assigned to diverse purposes.

In the three museums mentioned the two large interior areas are top-lighted. Attic lighting, in its two forms—exterior, one-sided, or attic lighting proper, and interior, two-sided, or clerestory lighting—suggests a further development of this scheme which in preserving its solution of the problem of access, satisfies, together with the demand for avoidance of glare, a third demand now widely current among all interested in museums: the demand, namely, for some means of making collections of overwhelming size available to the public as a whole. For the court, open or top-lighted, may be substituted a nave, obtaining its light from clerestory windows above the outer rooms, and sharing it with the superposed corridors about it. This nave may be set apart for the public as a whole by devoting it to the exhibition of important objects and such as give a conspectus of the total contents of the museum. Being but a third of the total unit of the scheme, it may remain even in the largest museums no more extensive a space than can be visited on one occasion without confusion or fatigue. One of the floors of outer rooms may be given attic light and devoted to the exhibition of objects reserved for the study of interested persons; and the other given side-light and used for department offices and work-rooms by the specialists engaged at the museum and their guests. Doors into the corridor system serving both nave and outer rooms may give independent access to every space which is used independently of others throughout the whole museum. Such a scheme would realize the essentials of an ideal stated by Mr. Brewer: "A natural history museum suggests itself where the public should be admitted to only a very small synoptic collection of group cases in specially built and lighted alcoves, and adjacent to these in each department,

first the collections for those specially interested, beyond these again the reserve collections for the actual student."²

The scheme may be assumed a sound foundation for architectural development; since it follows the analogy of a cathedral, with its nave, aisles, chapels and triforium. Diagrams 20 to 25 represent in plan and sections a building embodying it. The professional reader will see, and the non-professional reader is asked to bear in mind, that these and following diagrams are not offered as designs, but as drawings showing one way in which certain requirements as to dimensions, arrangement, lighting and assignment of rooms might be observed in a museum design. No more than this could be asked of a museum official, and an architect has the right to demand no less of a professional client.

It may be noted that the modules of this building are taken exactly or nearly from the series of numbers expressing successive approximations to the proportion called by the Greek geometers the Golden Section; that is, the series 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc., each after the first two being the sum of the two preceding. In a line divided by the Golden Section the shorter segment is to the longer as the longer is to the whole line. There is no question as to the aesthetic value of the internal harmony of this proportion in certain cases, although the claims of an all-embracing application made for it a generation ago were doubtless excessive.

Diagrams 20 and 21 show that the scheme is based upon the top-lighted gallery already studied, namely, a room 34 feet each way with a window at 23 feet from the floor. The space occupied by twelve of these galleries is disposed about a corridor 8 feet wide completely enclosing a nave 55 feet wide, 142 feet long and 90 feet high to its flat ceiling. The corridor is purposely kept at the lowest limit of width that will insure the free passage of numbers of people, in order to make impossible its use for exhibition. Above the outer galleries a suite of side-lighted offices, 13

²Brewer, p. 389.

feet in height, occupies the same space and is served by a second corridor over the first. The lower corridor has the height of the cornice of the galleries, 21 feet, leaving a space between, 11 feet

intermediate corridor on a level with the attic of the galleries suggests that it might on occasion become a light chamber instead of storage space, giving minor auxiliary illumination on the window

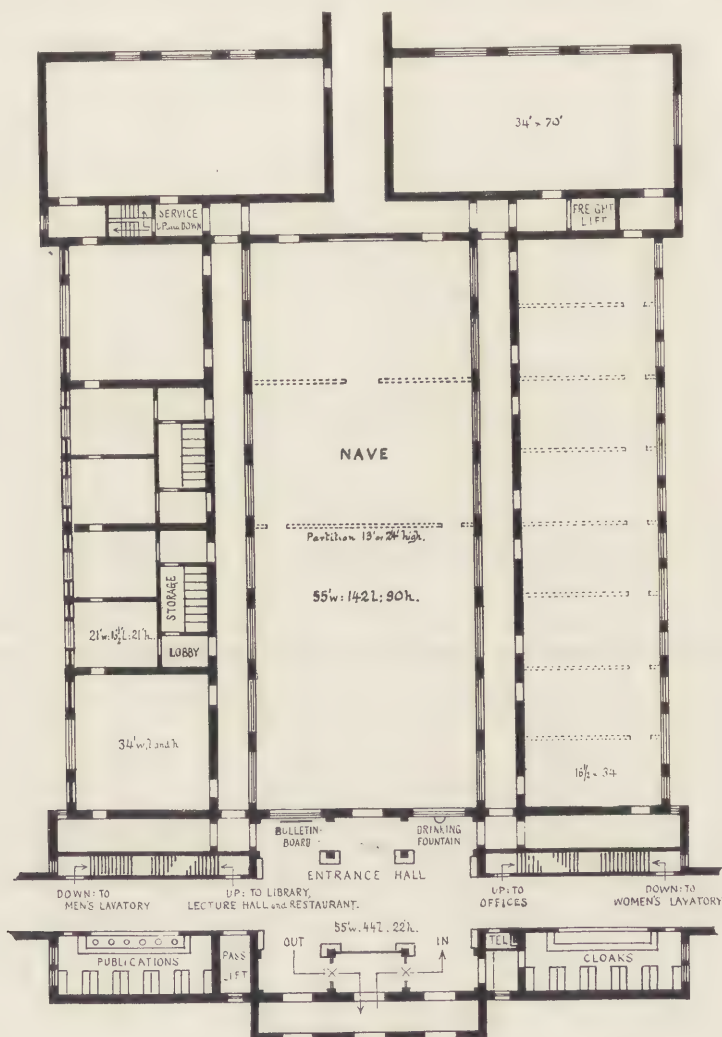


DIAGRAM 20.

high, accessible from the upper corridor and represented in the diagram as used as a vault for storage. All these corridor spaces borrow light from the nave, the lowest through openings at 13 feet in the screen separating it from the nave, the intermediate by lunettes crowning the screen, and the highest by a series of triforium windows. The position of the

wall of certain of the suite of galleries. The lighting in these galleries would be the unequally balanced high side-light preserving its unity which Mr. Wheelwright admits as an alternative; in a measure also fulfilling Mr. Brewer's ideal of the application of clerestory light to lower rooms.³

³Communications. III., pp. 106, 108.

The nave is lighted from windows along the side walls with sills at 67 feet from the floor. These windows would be out of the visitor's range of vision, except from the corner of the eye or much foreshortened, in all standpoints in the gallery. If clear glass were used, the light in the nave might be too intense for the best seeing. In any case curtains would be desirable to cut off direct sun. The screen with its cornice at 11 to 13 feet from the floor would give a background rising much above the customary 8 foot case for smaller objects, somewhat above most sculpture, and even above most, if not all, of the cases needed for larger natural history specimens.

Diagram 22 represents four bays of the nave with the screen in two of them carried to the level of the top of the upper cornice, 24 feet from the floor, in order to give a background for a very large canvas. The picture represented is one of the very largest, David's "Crowning of the Emperor Napoleon I." in the Louvre, 20 feet high by 30 wide.

The arrangement of the entrance to the nave shown in the plan is represented in Diagram 21, and the arrangement of the exit in Diagram 23. The picture chosen here is another of the very largest canvases, Titian's "Assumption of the Virgin," at Venice, 22 feet

high by 12 wide. There would be no glare on either picture seen from any position which would bring it all within the range of normal seeing.

The nave is represented as partitioned into three sections, as if the largest were to be used for objects of science and the smaller two for works of art. The partitions are supposed to run either to the top of the screen, 13 feet, or to the top of the cornice above, 24 feet, according as lower or higher backgrounds or a more or less complete division is wished for. They might be made removable by keeping them on hand in sections, and using permanent sockets in the floor of the nave opposite the

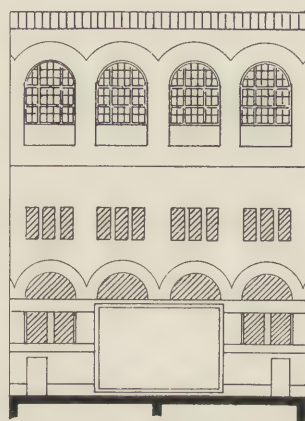


DIAGRAM 22.

piers. A notion of the probable effect of exhibitions in these divisions of the nave may be gained from the use of similar partitions 12 feet high in the top-lighted central hall of the new National Museum at Washington. Mr. Brewer writes that the galleries thus formed "afford excellent exhibition

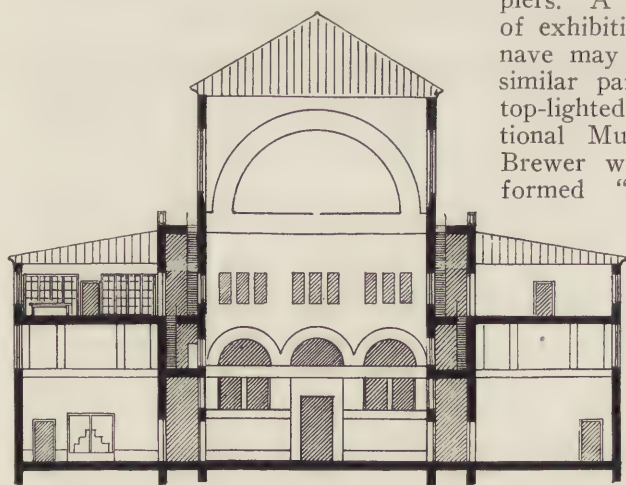


DIAGRAM 21.



DIAGRAM 23.

space for pictures, and the light from the high laylight (55 feet from the floor) reflected and diffused by the white wall above is excellent."⁴ Further, such

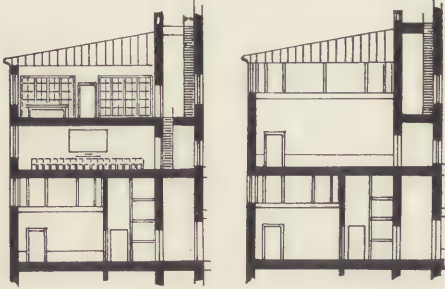


DIAGRAM 24.

screens tend to detach the mind of the spectator from the great space overhead; and upon the background they offer, the smallest objects—a collection of insects, of coins, of prints, of busts—would be at home in the largest naves. The largest division would suitably contain any objects but the largest. For the exhibition of the skeleton of a whale or other gigantic animal, or for a large architectural cast, the whole nave would be none too large. Doors are supposed provided from the corridors to all divisions of the nave, as well as to all the parts into which the gallery space could conveniently be divided. These doors would permit cutting off direct access from one division of the nave to another, passage being around through the corridor; or connecting the exhibits in any division with galleries devoted to corresponding objects.

In Diagram 20 the gallery space about the nave is shown with various divisions, as if to accommodate a miscellaneous collection. There are two large rooms, 34 by 70, one lighted from the long side only, as if for pictures, the other from both the side and one end, as if for case objects. All of the right hand gallery space is in one large apartment 142 feet long, divided into 17-foot bays by partitions reaching only to the cornice. The left hand space contains two standard galleries 34 feet square, separated by four cabinets,

16½ by 21. In these the ceiling is supposed brought down to the level of the cornice at 21 feet, and the window set at 14 feet. The space behind marked "Storage" in the plan is represented fitted with racks for the accommodation of pictures or other objects in reserve. Comparing these cabinets with the two 34-foot square galleries they replace, the wall-space shows a loss of about 10 per cent., while about 15 per cent. of the area of the rooms is secured for storage.

It would appear entirely practicable, instead of blocking up the 6½-foot openings on either side of the central window as shown in the left hand suite, to allow them to remain open, as shown in the right hand suite. If opaque curtains were then provided for the side-openings they could be kept drawn in ordinary weather, to be withdrawn in case of waning light or dark days, or removed in case of a use of the gallery demanding unusual illumination.

Alternative divisions of the space above the cabinets, made possible by the use of the intermediate corridor for access, are shown in Diagram 24. Of these, one represents the use of the attic space, 11 feet high, for additional studies or classrooms, the other to permit of additional galleries 26 feet high. It may be claimed as a merit of the present general scheme that its corridor system permits this elasticity in the choice of floor levels in the whole structure about the nave.

A fourth possible division and use of space in elevation and plan in this structure is shown in Diagram 25. The end in view is the reservation of light for exhibits, whose success in many instances has already ensured it a permanent place among museum methods. The gallery of the upper tier, which is shown as an alternative in Diagram 24 and is reached by the intermediate corridor, is here reduced to the width of that on the ground floor, 21 feet, and is represented as used either for cases or for exhibits occupying a space of about 14 by 16 feet and seen from behind a glass partition dividing off a passage way from door to door. The arrange-

⁴Brewer, p. 392.

ment nearly reproduces the plan of an outside corridor used for the Zoological Collection of the Darmstadt Museum and shown in Diagram 19. The adjoining space is divided horizontally into two suites of smaller spaces for exhibits to be looked at from the corridor through a partition. Their size, 12 by 16 feet in the intermediate corridor, and 10 by 12 feet in the upper, is somewhat greater than that of the Bird Habitat groups in the American Museum of Natural History in New York, whose installation as reported by Mr. Brewer is given in Diagram 19 as an arrangement for a low window; and their method of lighting is like that of the Aquarium at Detroit, Michigan, mentioned with special approval by this critic. Mr. Brewer notes (page 396) that the Aquarium at Detroit, a city of half a million inhabitants, has a million visitors a year, although three miles from the city proper. "These figures should give museum directors seriously to think; and they should ask themselves, especially those in charge of natural history collections, whether methods of display and lighting more akin to those employed in aquaria

—for instance the alcove group system with overhead lighting—might not add enormously to the popularity of their collections." It would appear that such series of room-exhibits might include many other kinds of objects than those of natural history: historical remains, fragments of interiors, or ethnological specimens. According to the present scheme these two corridor suites would be lighted from a continuous skylight just outside the parapet of the ambulatory on the roof, through two series of wells. The wells lighting the upper suite are about 8 by 10 feet and 6 feet deep; those lighting the lower suite about 6 by 10 feet and 20 feet deep. Each of these latter passes between two of the upper suite of cabinets and lights two of the lower and larger.

As the attic lighting of the chief galleries in the present scheme practically reproduces the lighting of the alcoves in the central corridor form of the reservation of light—shown in Diagram 19 and lately advocated as "top-side" light by Mr. Seager—and as the device of the solid velum used in the Rottmann Gallery has not since found approval or

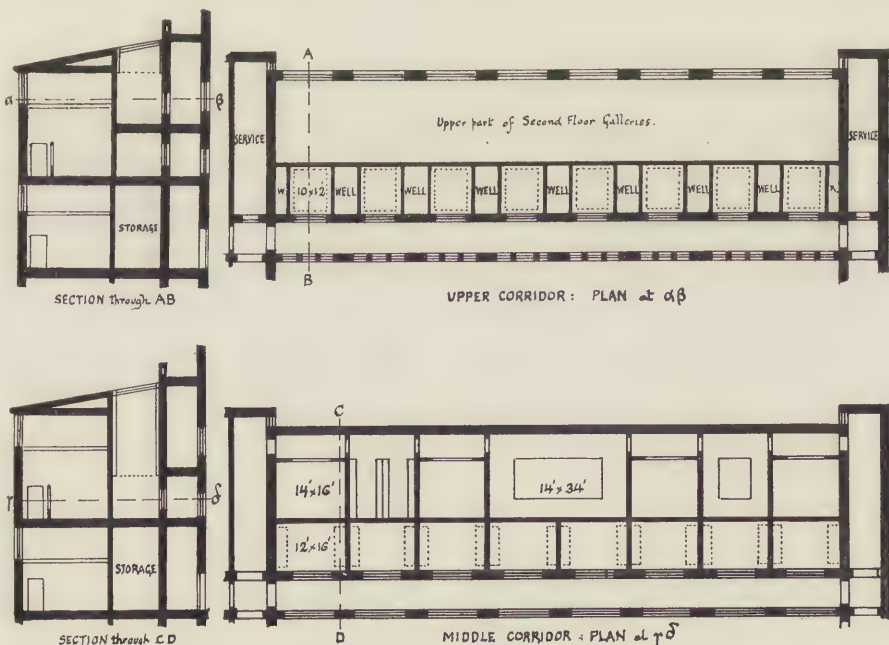


DIAGRAM 25.

imitation, there remains but one desirable form of the six shown in the diagram

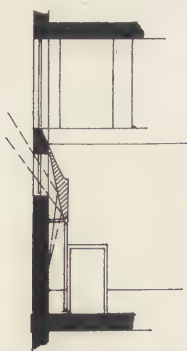


DIAGRAM 26.

which has not yet been taken advantage of here. This is the method of reserving light for exhibits under a high window employed in the Stockholm Museum, and described by Dr. Bather.⁵ Diagram 26 shows an application which might be made of this method in the chief galleries of the present scheme. The window wall of the gallery below the cornice is occupied by a construction like a high case—or, if open, a niche. The inclined back of the upper framework serves as a reflecting surface to shield the visitor from light coming from an opening below the cornice, and direct it through a diffusing medium upon the exhibits hung or set below. The window wall up to 11 feet or above could in this way be specially lighted without any direct glare reaching the visitor's eyes. It must be admitted that illumination from an unseen source directly above the object inspected is top-light in a pronounced form. While in special instances it might be justified, a certain unearthliness of aspect would appear inseparable from it, and its availability for museum objects in general may be doubted. In the attic-lighted galleries of the present scheme the need of such a device might never be felt. The large and bright reflecting surface above the opposite cornice would ensure a considerable illumination on the window wall, and the eyes of the visitor would retain

a degree of sensibility at present unknown in museums.

The entrance section of the building shown in Diagram 20 is conceived as a large mass fronting the rest of the structure after the manner of the towers and their connection in a cathedral. It is supposed constructed in four floors, from 22 feet downward in height, to contain all the various minor facilities now offered by large museums. The entrance hall is flanked by a cloak room and an office for the sale of catalogues and photographs, and gives access by stairways downward to the public lavatories, and upward by stairways and an elevator to the offices and library immediately above, the lecture hall above this, and the restaurant and kitchen on the top floor. The indicated size of these main rooms, 44 by 55 feet, gives an ample reading room and restaurant, and a lecture hall seating perhaps 300 people, and capable of extension. All the upper rooms being central in the front of the building may be given unobstructed light from along one side. The service stairway and the freight elevator provided for attendants and supplies in the transverse corridor at the rear of the building would be accessible from these rooms through the upper corridors on either side of the nave.

The entrance hall would be lighted both from the nave over the screen and from or over the vestibule in front. It is large enough to be the general meeting place of visitors, and for that purpose its central section is provided with seats about the columns and against the adjacent walls. The cloak room has a window directly opposite the entrance turnstile, and a long counter opening on the transverse passage, where, on crowded occasions, a number of persons could stand out of the way of passers and get their wraps from several attendants. A telephone booth adjoins. The publication office is in the corresponding position, where intending purchasers could inspect photographs undisturbed and under ample light from a high side window. As all of these utilities, including the elevator, are placed in the transverse passages, the entrance hall itself could be

⁵F. A. Bather. *Museumskunde*, Vol. IV., 1908, pp. 66 f.

designed and used as a dignified hall of reception, containing nothing to distract the visitor from the essential purpose of his visit.

An excess provision is made in this entrance section for the various subsidiary needs of a museum, in anticipation of the inevitable expansion toward which every museum must look. A museum by its nature as an accumulation of objects worth keeping in sight is liable to grow as other buildings are not, and in its design should be accommodated to this fact. A theatre has a limit of size, even a railway station may be adjusted to all reasonable expectation of traffic, but there is no limit to the desire of a community to possess in its museum an epitome of the surrounding world of nature and man. In strictness, no plan for a museum building which contemplates its eventual completion is an adequate plan. The design must always be such as will not be marred by additions. Two alternatives are possible.

The choice of a plan for a building to be indefinitely extended lies between a single conglomerate structure and a number of buildings connected by corridors—a pile or a group; and two considerations in the present case point to the choice of a group.

If growth were to take the form of an extension of the building shown in Diagram 20, its nave must either be prolonged, or extended by transepts or wings. Prolongation could not be indefinitely continued both for artistic and practical reasons. The Museum of Natural History in Paris is probably alone among museums in the great length—1,725 feet—anticipated for its series of narrow halls on the Rue Buffon. Even the long wing of the Louvre is already voted a weariness to the traveler. Transepts or wings would violate the fundamental external requirement of good museum lighting, that there should be no rooms lighted by windows at internal angles between high walls. It may be stated as a canon of the external conditions of light for a museum that only a minimum of light in the exhibition rooms may be permitted to come by reflection from façades and

roofs as a half of it does in an internal angle. The ideal is that it should be impossible from any space devoted to exhibition to see through the light opening anything but the sky. As museums are now constructed, even top-light has not the advantage in this respect that might be anticipated, towers and higher rising walls often cutting off large sections of the sky from the gallery below; while side-lighted rooms are placed without hesitation in the angles of wings, behind pillars, or on courts whose opposite walls may block off the sky almost completely. Yet the light reflected from façades and from roofs is deficient for museum purposes both in quantity and quality. These surfaces reflect but a fraction of the light coming from the sky, they are gen-



DIAGRAM 27.

erally colored and their weathering is never within control.

There remains the alternative of a group. The museum accommodations shown in Diagram 20 may be indefinitely expanded by adding other buildings at a distance to be determined by the canon of good external lighting, and connecting them with each other by low corridors. Such a group is the inevitable outcome if a museum is to be planned for indefinite expansion according to its essential need of white light.

The possible connection of other buildings with that shown in Diagram 20 is suggested by the open ends of the transverse passage through the entrance hall and that leading out from the nave. The structure, in itself of very modest dimensions as museums go, may become the parent building of a museum group of any size. In the outline plan of Diagram 27 it is represented as Stage I of such a development. Diagram 28 shows an immediate descendant, here supposed connected with its progenitor by a prolongation of the transverse passage as an

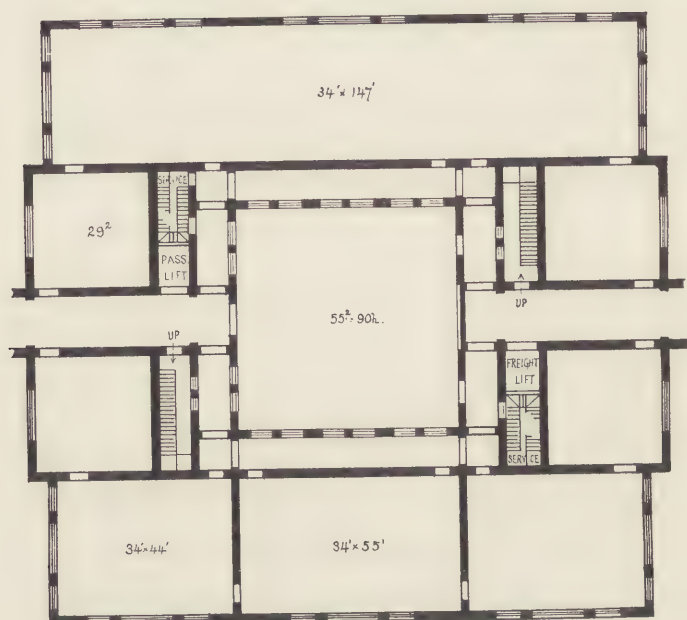


DIAGRAM 28.

outside corridor 150 feet long.⁶ This connecting corridor, being designed for daily public use and not as an auxiliary passage for exceptional occasions and special classes of persons, is planned 13



DIAGRAM 29.

feet wide. In the Museum of Natural History at Paris, structures on either side the main building are connected with it by corridors 50 feet long and 10 feet wide. The present corridor is conceived as a low cloister about 13 feet high with a still lower service passage over it connected with the upper system of the parent building.

Except for the entrance section, the pavilion reproduces in little all the features of the parent building. It has its

central public space, like the crossing and lantern of a cathedral, its suite of envolving galleries, its public and service stairways, its department rooms or galleries above, its passenger and freight lifts, and its corridor system. The result of its erection would be the group of buildings shown in the outline plan of Diagram 29 as Stage II. of a progressive development from the inconspicuous beginning shown in Diagram 20. A sound architectural result might be expected, since the two components of the group would illustrate the same general type of design on the same modules, and yet with sufficient variety of application to escape monotony.

On account of this general similarity—only the galleries on either side the entrance corridor and those opposite contributing a new unit of size—the pavilion may grow by expansion toward and beyond the likeness of the parent building. Its lantern may add to itself two transverse naves in opposite directions, about which the corridors and galleries may likewise grow. It is to be assumed that appropriate provision in the foundation and walls involved would make such extension an easy matter, and something

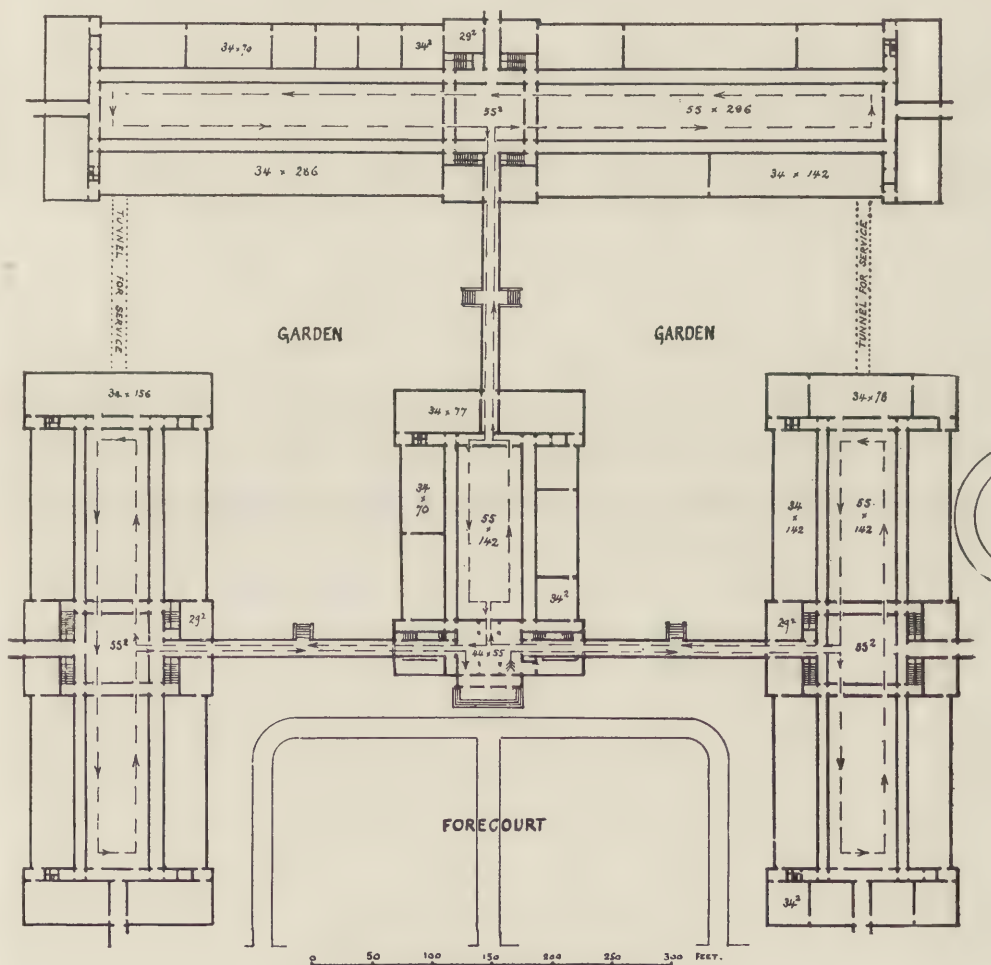
⁶To guard against risk from fire, Mr. Weissman thinks that a space of 140 feet should separate a museum on all sides from neighboring houses. "Gallery Building." A. W. Weissman, *Journal of the Royal Institute of British Architects*, Vol. XIV., 1907, p. 417.

to be undertaken little by little, as the needs of the collections demanded.

In further stages of growth, other pavilions, reached by the other two corridors left open in Diagram 20, might be added, and expanded in their turn. In Diagram 30 the scheme is represented at a point when its size would approach that of the largest museums of any kind either existing or planned—the *megalo-museum* as now built or dreamed.

The space occupied by the buildings and grounds shown in Diagram 30 within the corners indicated is a square of 800 feet, or 16 acres, of which about $7\frac{1}{2}$ acres is covered by construction. In this proportion the scheme differs greatly from the largest modern museums. In

all cases these cover more and sometimes all of the ground area they occupy. In the area of the buildings the scheme is still below the largest; but its indefinite extension on the same plan is possible, and as the diagram shows, in five ways. The completed plan of the Metropolitan Museum of Art in New York calls for a building 950 by 550 feet, covering 13 acres with a comparatively small deduction for courts, already in part covered by construction. The British Museum as built and the American Museum of Natural History in New York as planned, each cover 8 acres with their buildings, the courts of the American Museum adding $4\frac{1}{2}$ acres to its proposed total extent. The new Field Mu-



seum of Natural History in Chicago covers 6 acres, and the Museum of Natural History in London $4\frac{1}{2}$ acres, the buildings in each case extending over the entire area occupied. The building of the Brooklyn Institute of Arts and Sciences will occupy with its courts as planned an area of 8 acres and cover $5\frac{1}{2}$ acres with construction. The National Museum at Washington covers 4 acres, or with its courts, 5.

A comparison of floor space yields other results on account of the different number of floors in the building. In the National Museum at Washington the floor space devoted to exhibition is about 220,000 square feet, or $5\frac{1}{2}$ acres, and that devoted to department offices and storage about 4 acres, the total floor space in four floors being nearly 12 acres. The administration of the museum is reported by Mr. Brewer as thinking the exhibition space large enough for any museum, but the department space too small for their purposes. According to this judgment a megalomuseum of the present should not devote more than about 5 acres to exhibition space, but might to advantage assign at least an equal area to department purposes. The museum of Diagram 30 meets both requirements; but by reserving the first floor galleries for those who especially wish to enter, gives but two of its five acres of exhibition space to the public as a whole.⁷ The reduction may be regarded as a wholesome readaptation of the amount of things shown to the powers of those who are to see them. A walk through five acres of floor space passing within 15 feet of all the exhibits might be expected to extend to about three miles. Through the naves and cloisters of the present scheme it would reduce to about one mile. A pressing need of a better adjustment of means to ends in the matter of public exhibition would be met by such a limitation of primary exhibition space.

Conceived as a group in elevation, the

⁷The total floor area of the buildings represented in Diagram 30 is about 600,000 feet, or 15 acres. The basement would cover 215,000 feet, the entrance block in its four floors 30,000, the naves 80,000, the first floor galleries 135,000, and the second floor also 135,000. The department space partly in the basement and partly on the second floor would easily reach and pass the limit of five acres.

scheme would offer opportunities for three lantern towers disposed symmetrically about the parent building, whose cathedral front would distinguish it in appearance from the rest. The high naves would announce the paramount interest of the museum in the community generally. The use of high naves meets the architectural objection Mr. Weissman expresses to top-lighted museums. "Buildings like these being rather low, the exterior is not very satisfactory."⁸ The three connecting cloisters are each given openings at the centre into two extensive gardens among the wings. The main entrance would be approached through a wide forecourt, and a business entrance would have a driveway of its own at the side.

A park is the natural setting for a large museum, since a park is the pleasure ground of a city and every large museum is principally a holiday house, having no claim on the people generally except in their hours of leisure. A park, too, best offers the quiet and exemption from dust and risk of fire which every museum needs; and a park alone gives it freedom to expand into a group of structures sufficiently open to ensure the predominance of light from the sky in the galleries.

In the naves of the present scheme with its liberal gardens and forecourt, the ideal of pure skylight would be everywhere fulfilled except in a few windows of the parent building, through which it would be possible to see from the floor a part of the rear wall of the entrance structure.

In the galleries fronting outward there would be no obstruction from other buildings of the group. The conditions in the inward-fronting galleries are represented in Diagrams 31 and 32. The narrow cross-hatching indicates the area in which all the light received in a plane perpendicular to the wall of the room is reflected from the walls and roof of the opposite wing; the space left blank indicates the area receiving light from the sky only; and the wider cross-hatching indicates the area receiving part of its light from the sky and part by reflection,

⁸Weissman, p. 417.

the proportion of skylight increasing as the blank space is approached. The sections are drawn through the tunnel for service connecting the ends of the largest wing with the two next in size, because at this point the buildings are nearest together and the conditions are most unfavorable. They put the matter unfavorably, also, in that the amount of obstruction represented obtains through only a part of the

glare would be completely solved. From the time the visitor enters the museum until he leaves it, he is never brought face to face with any source of light. If he keeps to the public space he will never see one in a way to notice it; and while, in the galleries, at one doorway at each corner of each wing he sees a window at an angle before him, it would be almost wholly above the range of his normal vision. It is to be particularly

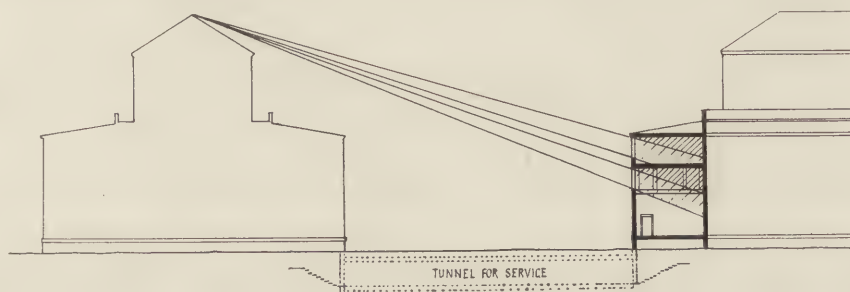


DIAGRAM 31.

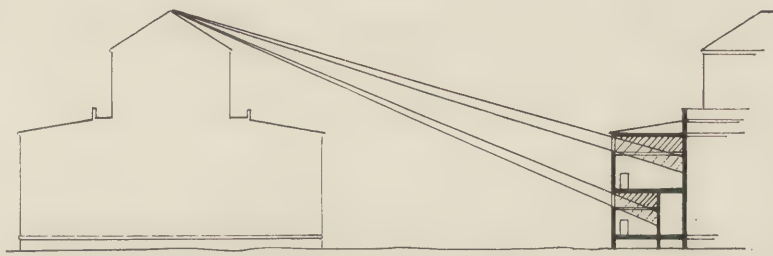


DIAGRAM 32.

horizontal angle over which light enters the gallery windows. But even the obstruction as shown is negligible. The diagrams indicate that all parts of both opposite and transverse walls receive light only from the sky up to 10 feet in the 34-foot galleries, to 8 feet in the 26-foot second floor galleries, and up to 5 feet in the 21-foot first floor galleries; and that all other parts of the exhibition zone get some skylight and most parts a preponderance. There would also be some slight interference with light from the sky, due to the connecting cloisters, on one of the walls of the adjacent 29-foot square galleries in each wing.

It is hardly too much to claim that in a building such as this, while the light would be ample in quantity and practically ideal in quality, the problem of

remarked that he enters the galleries through a corridor but dimly lighted by a window he cannot see. In the City Museum of Amsterdam, where the stairway is lighted from above through yellowish glass, the architect thought a similar provision necessary. Mr. Weissman writes: "As it would not be well to enter the gallery rooms at once from this warm light, comparatively dark rooms were arranged through which the visitors have to pass before entering."⁹

In the museum of Diagram 30 a degree of visual sensibility might be confidently awaited that would render its main lighting problem one of exclusion and not of admission, and which would notably lessen the fatigue of a visit.

The question of artificial lighting has

⁹Weissman, p. 443.

not been touched upon for two reasons. First, a museum is a daylight institution. Any works of fine art it may contain were made in daylight and meant to be looked at in daylight; and none of its contents have an appeal that can compete with the more restful or more stirring enjoyments or means of improvement to which our evenings are given. Museum objects demand to be seen in hours of complete relaxation, and not in hours needed for recovery from the cares and excitements of full days. At present Saturday afternoons and Sundays are the only times during which people in general can be expected to visit museums, and only if further reductions are made in hours of work can they be led to spend more of their time there to good purpose. Again, a striking fact has been established by Professor Ferree's recent inquiries. Artificial lighting proves a source of eye-strain hitherto unsuspected. His experiments show that while after several hours of work under daylight the capacity of the eye remains practically what it was at first, the same period of work under artificial light is marked by a steady and rapid decline in visual powers.¹⁰ Artificial illumination of museum exhibits adds a new and all-important kind of weariness to what is already one of the most exhausting of occupations.

The search for the best internal conditions of light in museums led to the substitution of naves for courts in the buildings of which the scheme of Diagram 30 is composed; and the search for the best external conditions determined it as a group instead of a conglomerate. There is another consideration of great importance which would of itself suffice to incline the choice toward the radial plan of buildings with cloister connections instead of the cellular plan of a building with interior courts. A museum building needs to be comprehensible as a whole to its visitors. They must know where they are at any time, what remains before them and whither to turn to reach it. The need is felt by

every one in a museum with which he is not familiar. It is felt by the majority of people in the museum of their own town, and by all without exception in the museums of other places. Every one in most museums and most people in every museum want to be able to see all its departments and all its chief treasures in one visit of an hour or a few hours. In order that they should be able to do this without bewilderment, difficulty and waste of time, there should be an easily comprehensible circuit through the whole space devoted to the public. Such a circuit is possible and easy in a museum on the radial plan here adopted, and difficult or impossible in a museum on the usual cellular plan. One simple rule without any map or plan would guide the visitor through the whole public space of the scheme of Diagram 30 or its further developments, and carry him back to his starting point without bringing him twice before the same exhibits—"Keep to the right when you can." The broken line shows whither this rule would lead him on starting from the entrance. Keeping it in mind, there is no alternative presented at any point; no opportunity to say, "Have we seen this before?" or "Which shall we take first?" If there is any turn to the right before him he has not seen the collection to which it leads, and there is no need of deciding what to see, for all will be seen in course by following the rule. With a cellular plan, it may be impossible to see all the galleries without seeing some twice; and when possible, none but a complicated set of directions will enable the visitor to do it.

This appears from the consideration that from any junction of three wings at right angles, of which there are two on opposite sides of the building in a museum about two courts, four in a museum about four, and so on for more complex schemes, there are three paths which sooner or later must be traversed if all the exhibits are to be inspected. A single line representing the visitor's path has but two ends; and one of these ends must lie at each of the triple points, the line being continuous at that point in the other two possible directions.

¹⁰C. E. Ferree: "Tests for the Efficiency of the Eye." Transactions of the Illuminating Engineering Society. Vol. VIII., No. 1, January, 1913, pp. 51 and 52.

Hence, starting at the entrance as one triple point, a single journey through the building will end at the opposite triple point, and to reach the entrance he must traverse the central wing again. It is true that he might then ascend the stairs and visit the next floor in the contrary sense; so that if the exhibition space consisted of an even number of floors the visitor might return finally to the entrance by the elevator or stairway without seeing the same exhibits twice. It is also true that a double journey up one side and down the other in each wing is possible without passing the same side twice, but the process proves complicated. The visitor may, for example in a building with four courts, make twice the circuit of the outer wings of the building as shown in Diagram 33, and then, proceeding up the central wing to its crossing with others, from this point out go up and back through each of these, taking his way back to the entrance as his second trip through the central wing. But beside exalting the purpose to get through the museum over the purpose to see its contents as far as may be in connected fashion, this rule presupposes a capacity of orientation and a memory for locality which would be sorely tested at each of the four points where alternative ways opened, and of which the public in general is far from capable. As a popular circuit, the journey would probably be prolific of repeated visits to the same exhibits and the missing of many; while the rule given for the museum of Diagram 30 would lead to no such annoyance because of its simple content and orderly result. At the entrance there would be the choice which of the three ways open to follow first. Diagram 30 supposes the right hand wing chosen, but the choice of the parent building would give the same result. The visitor would enter the nave, since the right hand passage, leading to the galleries, would not be open. Passing through the nave and into the corridor beyond, he must turn to the left because the right hand door to the corridor is also closed; and taking the first turn to the right, would find himself in the cloister leading to the long wing. Traversing this wing, first on one side and then the other,

by the same rule, he would eventually find himself again in the cloister, and after making a short necessary turn to the left, again in the nave of the parent building and back at the entrance. Here a way to the right again opens, leading to one of the smaller wings through both of which the same rule would lead him eventually again to the entrance, having exhausted his three choices. Meanwhile, at any point the specially interested visitor could, by asking an attendant, learn the way to such of the related galleries as he might wish to see; and could inspect their contents undisturbed by the

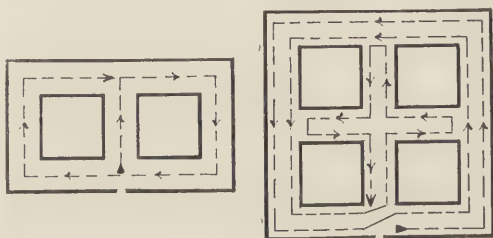


DIAGRAM 33.

main throng of visitors. This exemption would be especially welcome in museums of art. Professor Paul Clemen writes: "Our modern exhibition buildings have shown that the rooms which do not lie directly in the way of the throng have the happiest and most intimate effect and are best adapted for the quiet and contemplative enjoyment of art."¹¹ In the present circuit one only of the naves, that of the parent building, would have been seen in two visits separated by an interval. In default of special measures to the contrary, the collections shown here would doubtless always retain something of their original miscellaneous character as the nucleus of all the collections. The others, each supposedly devoted to one main department of the museum, would have been seen continuously. These continuous visits would be spaced each from the other by promenades through the cloisters. The public circuit of the museum of Diagram 30, short as it is, would not consist of an unbroken round of inspection of fresh objects, as in almost all existing mu-

¹¹Paul Clemen. *Zeitschrift für Bildende Kunst* 1905, p. 40.

seums, but of a series of separate visits to more or less related objects with short walks between. While the contents of the museum would everywhere be presented to the visitor in rooms giving no view of anything else, there would be recurrent opportunities and time for a return to the outside world, and in fine weather for a descent into the gardens. These cloister promenades would at once rest his eyes, vary the call on his muscles, and give him opportunity to turn his mind away from what had gone toward what was coming.

In another way the fatigue of a visit to the museum of Diagram 30 would be less than in most other museums. The whole public space and most, if not all, of the reserved exhibits could be seen without climbing any stairs.¹² A staircase in a museum confronts the visitor with a physical task of a kind he may wish to avoid and which in consideration of the mental tasks before him, he may well be spared if it can so be arranged.

The structure of the scheme lends itself to the division of the collections into seven departments under three heads. It is tempting to fill out such a division in accordance with the possibilities of gathering tangible objects worth keeping. In a general museum the three wings may represent man, other forms of life and the planet we inhabit; or Anthropology, Biology, and Geology, as they do in the National Museum at Washington. In an art museum, they may represent the graphic arts, the ancient art of the Mediterranean, and modern art of East and West, as they do at the Museum of Fine Arts in Boston. But a museum is born, not made; its collections mainly grow, not by taking thought, but by the grace of Heaven; and any large plan for its development is foredoomed to disappointment.

At first, it may be assumed, any collections the parent building was erected to contain would be insufficient to fill it, and some of the space could, pending

their growth, be lent to other enterprises, classes, clubs, or other organizations for public welfare. This is the situation represented by the blank spaces in outline plan I. of Diagram 27, where the public, and most of the gallery space, is indicated as filled. Outline plan II., of Diagram 29, represents the addition of a pavilion to accommodate one of the departments grown beyond the available space in the parent building. Its transfer vacates space in both the nave and the galleries of the parent building, and in the pavilion there is space which it must grow to fill. Outline plan III. of Diagram 34 represents the transplanting of another department into a second pavilion, and the enlargement of the first to accommodate the rapid growth of the

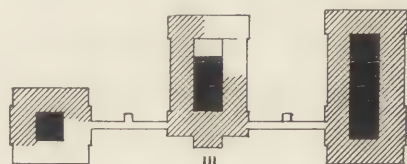


DIAGRAM 34.

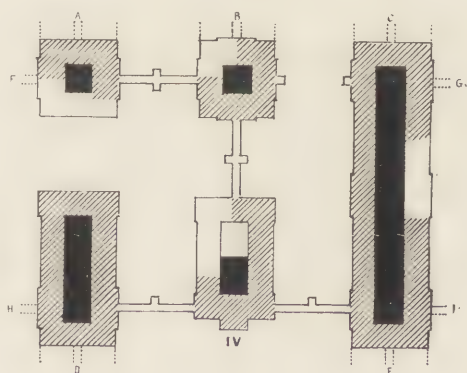


DIAGRAM 35.

department first moved. At this point in the supposed growth of the museum, a large endowment, a government grant, extraordinary success in some expedition, or other unforeseeable event, suddenly reduces the symmetric plan of Diagram 30 to an impossibility. The department first moved now turns out to be the main museum. Long discussions ensue, and the architects are called upon to devise a substitute. Nevertheless, the

¹² " . . . everyone I believe greeted with joy the idea of a museum where weary mounting of stairs was to be wholly, or to a large extent, eliminated." R. Clipston Sturgis. Report on Plans Presented to the Building Committee of the Museum of Fine Arts, Boston, 1905, p. 11.

principle adopted proves equal to the emergency, as appears in outline plan IV. of Diagram 35. The first pavilion expands into a great double wing, like that planned to be entered from the end of the parent building. Other pavilions follow in due course, leaving the group still a harmonious architectural mass, if an unsymmetrical one, with further unlimited possibilities of extension. Such a combination of naves, corridors, and galleries in a way to meet unexpected forms of museum growth, may be likened to the farmstead type of Lombardy, capable of endless new forms of shelter for a family, its stock, its tools, and its harvests, each a satisfactory composition; or to a tree like the pine, from which almost any branch may be cut without destroying its picturesque completeness.¹³

The scheme of Diagram 30 is an invention only in the Patent Office sense of a possible "improvement in the art." It may be regarded as a step in a development of which the Naples Museum (1587), the Old Pinacothek in Munich (1826), the Kelvingrove Museum in

Glasgow (1901) and the Museum of Fine Arts in Boston (1909), offer successive illustrations. The museum at Naples laid the foundation in its double row of rooms around large spaces on either side a block devoted to access. The Old Pinacothek settled the unit of plan for museums as an exhibition space plus a corridor adjoining. The Kelvingrove Museum adopted the principle of lighting a large interior space from a clerestory. The Boston Museum chose a radial lay-out about garden courts. These steps have been summed by reducing one of the two exterior spaces of the Naples Museum to a corridor, as in the Pinacothek, and devoting the interior space to primary exhibition, while doubling the secondary space in accordance with the modern tripartite division of museum functions: further, by extending the clerestory light of the Kelvingrove Museum to all the exhibition space, the large interior courts becoming naves, and the galleries about receiving attic windows; finally, by carrying on the radial principle, since illustrated also in the University Museum at Philadelphia, the connecting links becoming cloisters. The result is a scheme which appears, and has reason to claim itself, adapted to the needs of museums generally, scientific or artistic, large or small.

The solution of the lighting problem in museums has been halted for a century by a datum of mistaken erudition. The choice of the Classical type—based ultimately on columns against a blank wall—for buildings devoted to vision would be an absurdity were it not a blunder. The hypethral myth is gone, and reasoning should replace it. Which way should light come in a room where people walk about to use their eyes by it? Neither vertically, nor horizontally, but diagonally.

The solution of the problem of overgrowth in museums is as simple as Columbus's egg. They must not be allowed to become so large. It has been proposed that smaller museums, each with its different scope, should be scattered about our newer cities as they have already grown up without design in

¹³The nave plan in all its stages illustrates in detail the requirements of museum design thus stated by Mr. Clipston Sturgis: "The ideal for the arrangement of each department taken in connection with the previous ideals of a single main floor and independent departments would be (1) that each should have its entrance on a main artery of the group; (2) that the visitor should be given a short circuit of the most important galleries, in which everything shown should be good of its kind, should be given plenty of space, and exhibited under the very best circumstances of light and surroundings; (3) that the route should be made perfectly clear . . . giving the visitor the opportunity to go on to the other rooms of the department, or if he prefers, leave the department where he entered it on the main artery. . . . (4) that a longer, but equally clear circuit should embrace the reserve galleries which should be readily accessible for all who desire, and yet in a measure withdrawn; (5) and that finally, there should be the last group, clear of either circuit, through which there is no thoroughfare, for the work and study of the department." Museum of Fine Arts, Boston. Report on Plans Presented to the Building Committee; by R. Clipston Sturgis, 1905, p. 15.

These five requirements are met as follows in the diagrams: (1) the entrance of each building of the group is on the corridor system connecting all; (2) the naves offer a clear circuit through the most important exhibits shown under the best conditions; (3) the route through them brings the visitor to the point where he entered, and offers him the alternative of returning to the main entrance without seeing anything else; (4) a longer but equally simple route leads through the outlying or subsidiary galleries, which are entirely independent of the naves though no less accessible; (5) the work and the study of the department go on in rooms reached by stairs, and hence wholly aside from either the primary or secondary thoroughfares for visitors. It is a fortunate circumstance that a museum scheme aiming at ideal lighting should prove to embody also an ideal of arrangement reached irrespective of lighting.

older centres. The idea of small museums is most attractive, but one does not just see why the modern world should seek to imitate the chance result of former times.

Why not gather the museums of a town, or most of them, together in its most favorable spot, keeping them just far enough apart not to obstruct each other's light, but still near enough together to be managed, and on occasion used, as one? This is the group system here proposed.

It may be replied to this entire argument, and with truth, that apart from isolated and more or less far-off examples, attic lighting, together with the multiple scheme developed from it, is purely a theory. The question then arises whether it would not reward some museum with great expectations to spend five thousand dollars in constructing and testing an experimental attic-lighted room as a premium of insurance against the possible waste of five million dollars in unsatisfactory buildings.





BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART I. (Continued)

THERE are no less than six good volumes published to date on the Colonial churches as a separate subject. Their value for the architect is, however, restricted in the case of all but one of these. In the first place credit must be given to interested individuals or journals in certain districts, for two useful small volumes on southern churches and one on Connecticut churches have been issued from such sources. The Southern Churchman Company is responsible for an interesting volume entitled *Colonial Churches, a Series of Sketches of Churches in the Original Colony of Virginia*. The descriptive accounts are written in entertaining fashion by a number of persons particularly acquainted with individual buildings, but the illustrations leave much to the imagination. A book of much better handling, written with a slightly keener architectural sympathy, is that on *Some Old Time Meeting Houses of the Connecticut Valley* by Charles Albert Wight; this contains a number of fairly clear halftones but, of course, no purely architectural reference material. A similar book

is that on *Historic Churches of America*, written by Nellie Urner Wallington, with an introduction by Edward Everett Hale. This is a useful volume for its historical data; it is well written and contains over thirty plates. Under the same title was published in 1890 a series of large folio plates with accompanying text and illustrations and a general treatment similar to that of the book issued by the Southern Churchman Company noticed above. The plates are sixty in number, published in twenty parts; they are chiefly etchings and ordinary photogravures, the former generally of high quality. The chief interest of the volume is rather sentimental or historical than architectural. The text was compiled by sixteen writers, intimately acquainted with their subjects, who took great pains with the chronicles, legends and traditions, but saw no particular value in the styles of their buildings. Mission buildings are also included, as well as the cathedral at Quebec and the unique Greek church in Alaska.

But the story of the churches has never been told so well as in Mr. Aymer

Embury's volume on *Early American Churches* (New York, Doubleday, Page and Company; crown octavo, pp. xvii-189, 102 ill.; \$2.80). The author has a thorough understanding of the Colonial manner of building and a deep sympathy for its significance in American national life. His book becomes an architectural reference work; he is careful to distinguish points of departure for various local influences and has a quick eye for the excellences of design. Although his title is sufficiently inclusive the author has considered only the buildings of the truly Colonial type and has purposely ignored the churches of the interloping Greek Revival type. In this restriction he is lenient in the case of only one example, that of the First Presbyterian Church at Sag Harbor, New York, the solitary survivor of our "Egyptian period," which—may the gods protect the offenders!—was deservedly brief.

In his introduction Mr. Embury confirms the truth of our earlier statements when he writes: "To the architect the principal interest in these buildings is of course their forms, in which were expressed the supreme efforts of the artistic genius of our ancestors, the designers of the Colonial period, whether we call them architects, amateurs, or builders, who were inheritors and practitioners of a concrete and perfected tradition such as does not even to-day exist. Their furniture, their dwellings, and their public buildings were all products of the same genius and the same ideal, and to-day we are seeking and finding in them sources of inspiration no less satisfactory than the best that Europe has to offer." This character of homogeneity is a good lesson to take away with us from our study of Colonial architecture in general. All differences were melted into a plain spoken and direct expression approaching most nearly a uniform ideal, "and it is a rather interesting fact that the change in design from 1638 to 1830 is less noticeable than that in the twenty-five years succeeding the latter date." Therefore we must discount the current understanding of the Northern Puritan simplicity and of Southern aristocratic luxury, for the author points out that the richest ex-

amples are to be found in Philadelphia, midway between North and South.

Our earliest buildings, that is, those of the first three generations of colonists, are not illustrated by a single extant example. Nor would they be of greater architectural interest than a lean-to or tipi or igloo, simple indications of the first and most rudimentary needs for architecture, shelter and community protection. John Smith, the doughty captain that figures so prominently in the first history reader, describes the first English church in the new land in these words: "When we first went to Virginia, I well remember we did hang an awneing (which is an old saile) to three or four trees, to shadow us from the sunne; our walles were rales of wood; our seats unhewed trees till we cut planks; our Pulpit a bar of wood nailed to two neighbouring trees. In foule weather we shifted into an old rotten tent, for we had few better. This was our church till we built a homely thing like a barne; set upon cratchets, covered with rafts, sedge, and earth; so was the walls. The best of houses (were) of like curiosity; but the most part far much worse workmanship, that neither could well defend from wind nor rains." The fact that the connection with the Church of England was quite direct in some colonies made the latter dependent upon the home country for the appointment of ministers to preach in colonial pulpits. In certain colonies, however, the Dissenters and other sects were cast upon their own resources and solved the problem to their own satisfaction by combining church and state physically in the meeting house and in government by obliging all residents in the colony to declare that they believed in God and would attend church regularly. In some cases churches and meeting houses were built beside one another. The church tower served as a lookout as frequently as it did to hang the bells. A sentry was posted there during services and a facetious old burgess introduced a regulation controlling the presence of women and children in the belfry while the sentry was on duty, so that his attention might not be distracted. Armed men were like-

wise placed on outpost duty along the roads leading to the meeting house.

As long as the ecclesiastic connection with England is strong and direct the design of the structures must be expected to hark back to English originals; but when the colonies were obliged to shift for themselves in this respect we begin to find the earliest introduction of home design. Thus while the Virginia churches were apt to recall Church of England precepts, the Pilgrims at Plymouth may be relied upon, in their very first building, which was the meeting house, to show the colors of the new land. This first meeting house incidentally, was a large square building with a flat roof, placed upon a hill overlooking the harbor and surmounted by six cannon. It served the secular and spiritual needs of the colony. These two were generally very intimately connected. An offense against the church was *ipso facto* a political offence; absence from church was as criminal a proceeding as theft itself.

Mr. Embury's book takes account of eighty-one churches erected between 1632 and 1843. Of these six were begun in the seventeenth century, forty-five in the eighteenth and thirty during the first half of the nineteenth century. The majority of them are ascribable to descendants of New England settlers, and of those still remaining the larger part were the work of the Episcopal Church. The Catholic faith of the earliest times is not represented by a single remaining structure, although we have a few of Baptist origin, four or five Lutheran and Dutch Reformed examples and several built by the Presbyterians. But the author points out that local traditions outweighed denominational differences in their influence upon church design. It is also interesting to note that of the eighty-one churches recorded thirty-one are of wood, twenty-eight of brick, nineteen of stone, two of stucco and only one of marble. Despite the greater durability of the other materials, the buildings of wood are still extant in larger numbers.

Only four churches remain which were completed during the seventeenth century; these are: St. Luke's, near Smithfield, Virginia; the Ship Meeting House

at Hingham, Massachusetts; the Old Swedes' Church at Wilmington, Delaware, and the "Gloria Dei" at Philadelphia. Other doubtful members of the seventeenth century group are St. Peter's, New Kent County, Virginia; the Quaker Meeting House at Flushing, New York; and the Dutch Reformed Church at Oakland, New Jersey.

The churches of the eighteenth century include some of the finest examples of our early architecture. The buildings represent in most cases the third or fourth generation of buildings on the same site. The first structures were invariably hastily and poorly done, with a minimum of design; these were generally superseded by better structures, perhaps of more permanent material; but usually the second stage was followed by the third because of the rapid increase in the number of colonists and everyone was obliged to go to church. The third building was, as a rule, a much larger and more pretentious church and is in most cases the one that remains for our study. Among the eighteenth century churches are included Old North Church at Boston, designed by William Price; the well designed Trinity Church at Newport, Rhode Island; Christ Church at Philadelphia; Old South Church at Boston; St. Michael's at Charleston, South Carolina; St. Paul's Chapel, New York; Christ Church at Alexandria, Virginia, and St. Mark's at New York. The buildings of the nineteenth century are, of course, much better known and still remain to us in large numbers. Of these many are influenced by the new Greek Revival tendency which even in 1806 had begun to make itself felt outside the large cities. Among the good examples of the better Colonial type we might mention the First Church of Christ at Hartford, Connecticut; St. John's Chapel, New York; the Center Church at New Haven, Connecticut; the First Unitarian Church at Deerfield and the Meeting House at Ware, both in Massachusetts. The chief names of designers are those of Asher Benjamin, Ithiel Town, John McComb, David Hoadly, Charles Bulfinch and Isaac Damon.

Mr. Embury ends with a vigorous defense of the Colonial manner of build-

ing as an important feature of the art of the world at large during the period of its activity. We can assuredly agree with him that its influence upon the American architecture of the moment is "potent and far reaching," and he maintains in addition that this influence "has even been reflected back upon the European styles, so that we continually find in modern European work traces of design which originated in the United States in the eighteenth century." He scores the critics because they find the earliest citizens of the United States negligent in the determination of an "original style" and adds that "if by an 'original style' of architecture is meant one which bears no traces or resemblances of the Greek or Gothic, American designers would have had to . . . forget two thousand years of inherited tradition, and begin where the cave dwellers of Europe began ages ago; since while a single memory of the mechanical improvements which have been made since the days of the cave dwellers persisted, the forms in which these were expressed would likewise have persisted. Had we been red Indians we might have developed an autochthonous architecture, as they did, but we were transplanted Europeans, as incapable of forgetting the traditions of our races as were those Europeans who never left their native lands." He declares with justice that we were prompt to develop our own vernacular speech in building and that although the early builders had not at their command means sufficient to erect large buildings of costly materials, they were quick to speak in an American tongue, unhampered by the racial characteristics of the builders themselves, and that their efforts were well represented for many years in small buildings only.

The author then states the case for the quality of Colonial design in the words: "The characteristic of the style is (by comparison with European work of the same period) a greater dependence upon line and mass than upon ornament, which was sparingly introduced and never permitted to dominate. The best American architecture of to-day has not dissimilar characteristics, and, wherever the churches can be criticised, it is invariably

on the ground of over-severity and extenuation of line, and never because of vulgarity and ostentation."

We are assured of the lasting value of Mr. Embury's book and that it will find a place of importance in the libraries of architects and of laymen; it is a contribution of intrinsic worth to the literature of Colonial architecture.

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NOTES & COMMENTS

Inoffensive Gas Tanks.

Of all the structures which the needs of civilization have developed, there is none which exceeds in unsightliness the towering gas tank. There have been attempts to make them architectural. When the Municipal Gas Works was built near Philadelphia, at Point Breeze, many years ago, the gas houses and tanks were built in a pseudo Gothic style; and, while the gas houses themselves were not without merit, the attempt to make of the gas tanks a thing of beauty reminded one of the educated stylishly dressed dogs at the circus. Perhaps some genius could solve the problem of an architectural gas tank, but to date there has been no sign, even in the hands of a genius, that the problem would be possible.

The average gas plant superintendent, remembering that red lead is one of the most efficacious of paints for the protection of steel, paints his tanks and towers a brilliant red or the equally obtrusive dark reddish brown. Sometimes his artistic spirit demands expression and he paints his frame work black in contrast to the red ground of the tank itself. In any case the results are distressing. The gas tank occupies so large a spot in the landscape, both in width and in height, and its outlines are so uncompromising that there is nothing that destroys the beauty of a landscape with equal efficacy.

There was a great gas tank built some years ago just back of the beautiful shores of Bay Ridge and directly opposite the residential section of Staten Island that so absolutely smothered the natural beauties of the high banks of the Harbor with its crude red bulk that it almost hurt one to look across the Narrows.

But, and this is the *raison d'être* for this article, one day a blessed paint salesman

convinced a gas works superintendent, who should be of happy memory, that aluminum paint would be an ideal coating for the steel work of the tank; and, lo! a miracle occurred. The impossible transpired. The tank and all is ugliness disappeared into the sky.

Aluminum paint is naturally of a color very close to that of a grey hazy sky and it moreover reflects in a diffused way, somewhat as the clouds themselves, the direct light from the sun. Remember this, and if you happen to know any as yet uneducated gas works superintendent, pass the good word along.

A Chronological Catalogue of Buildings.

Mr. Barr Ferree, writing in the *Journal of the Royal Institute of British Architects*, suggests the necessity of the preparation and publication of a complete catalogue of all buildings of architectural value erected in any country, with a chronology of their erection and alterations.

According to Mr. Ferree's plan, the data should include "the country, political subdivision, city or town in which the building is situated; its name, if any; a condensed and concise chronological summary of its history; brief mention of structural or essential decoration, as sculpture, wall paintings, mosaics, glass; and a brief bibliography strictly limited to the most important monograph or paper in which the building is described."

This publication would serve as an index to bind together the vast mass of archaeological work that has been done in recent years, but whose value is greatly lessened by the lack of just such a systematic summary.

The compilation of such a work, including, as Mr. Ferree suggests, all buildings of merit erected prior to the year 1800, with

their alterations up to the present, need not be enormously expensive. Doubtless a plan for international co-operation could be readily organized, and many local architects and archaeologists would be only too glad to contribute the information which they had collected from various sources.

The publication of the work would, in all probability, involve greater expense than the collection of its contents. This, however, Mr. Ferree believes, would easily be met by the contributions of technical societies, whose number is so great as to make the burden on each relatively slight, and undoubtedly many wealthy individuals would also be glad to aid in this effort.

The value of such a catalogue may be readily judged by our readers who remember the articles by Mr. Ferree himself that appeared in these pages several years ago, on the subject of the French cathedrals, and which included a catalogue that, in its special field, comprised most of the features that he now proposes.

A Rational Office Building.

When the principle of a new law is correct, it is usually found that the practice of intelligent persons has definitely antedated its enactment. No law has as yet been passed in New York City

regulating the construction of skyscrapers, but intelligent operators are beginning to build their buildings so as to obtain results which would be assured by the passage of the proposed law.

The building at 8 West Fortieth street designed by Starrett & Van Vleck for Mr. Paul Starrett and Mr. Metcalfe is a typical example. Here has been appreciated the fact that the most valuable possession of an office building is outside light, permanent and assured outside light. In this building it has been recognized that, given adequate elevator service and fireproof construction, height—moderate height, if you will, as compared to the highest building in the world, but towering as regards old fashioned standards—is an advantage. The owners and the architects have designed a building on a lot 62 by 100 feet in the

middle of the block completely finished and with windows on each of its four sides. Of course, that this might be possible, it was necessary for the owners, by purchase or otherwise, to obtain permanent light privileges from the owners of the two six-story buildings on each side of the new structure. But consider what a wonderfully valuable property they now have. Facing, as the new building does, the Public Library on the north, having a court fifteen feet wide on the south, and enjoying a light easement over the low six-story buildings, in the one case thirty and in the other case forty feet wide, on the east and west, it is essentially a permanent investment, while the very success of the high building increases the value of the six-story buildings on each flank.

Architecturally, the building is of very considerable interest and merit. The brickwork, of two or three shades of the same colored brownish gray brick, is most pleasing in its texture and tone. The steel window frames and sash with their small panes, while of special value for fire resisting purposes, are of distinct architectural value, particularly in a building such as this, where the walls are pierced to the extreme limit with openings; they tie the whole surface of walls and windows together and give a solidity of appearance to the shaft that would be wanting with the usual single large sheet of plain glass fenestration.

The treatment of the first story is original and in good taste. For the rest, one questions somewhat the position and shortness of the round-headed windows towards the top of the shaft and wishes perhaps that they might have been raised a story; and wonders whether the architects themselves do not regret in actual construction the truncated pyramids above the attic, however much they may have liked them on paper. Do you suppose they would be willing to take them down except, perhaps, at the angles, where they soften the break between the shaft and the roof story? Otherwise the treatment of the attic and roof is most successful.

The building is a complete composition and a notable addition to the architecture of the city of New York.



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COVNTRY HOVSE ARCHITECTVRE ~ IN THE MIDDLE WEST ~

BY PETER B. WIGHT

IN an article which appeared in the Atlantic Monthly for December, 1889, the late Henry Van Brunt, of Boston and Kansas City (he having at that time a branch office in Kansas City), said with reference to the city of Chicago:

"The resistless enterprise and public spirit of the Western metropolis, its great accumulations of capital, the phenomenal growth of its commercial and social institutions, and the intelligent ambition of its people to achieve a distinctive position in all arts of civilization have given abundant opportunity for monumental expressions in architecture. The manner in which these opportunities have been used during the past eight or ten years gives encouragement to the hope so long cherished that we may at last have an American architecture, the

unforced and natural growth of our independent position in art."

Those who knew Mr. Van Brunt will remember that he was one of the group of highly educated and accomplished young Americans whom Richard M. Hunt had gathered around him in his *atelier* in the old University Building at New York, after his return from France as the first American who had passed through the curriculum of the École des Beaux-Arts, and had assisted Hector Lefuel in the designing of one of the pavilions of the Louvre. All of his *élèves* imbibed his enthusiasm and followed with him the practice of those methods of study used in France to develop the architects of that country. There was then no other school of architecture in America. But Van Brunt, like

nearly all of the American students who later were educated at the École, was no slavish copyist of modern French architecture, and he was gradually developed as a broad-minded thinker. Before his death he became the most accomplished writer on architecture that America had produced up to that time. He was the first to recognize the growing spirit of the "Middle West," a term which had not yet been generally adopted for that part of the United States lying between the western boundaries of New York and Pennsylvania and the Rocky Mountains. Therefore when he spoke of Chicago, it was only to use it as typical of the architectural spirit of that part of our country.

In referring to the previous "eight or ten years," he included a period that seems to have been almost forgotten by recent writers on architecture. For it has been too much the vogue in this present century to regard all that had been done architecturally in America before the "World's Columbian Exposition" at Chicago as a product of the dark ages of American art.

It is not my purpose herein to discuss with these writers the facts of American architectural history, as shown in the works of American architects after the year 1850 and previous to 1890, most of which have disappeared in the course of commercial demolition; but I call upon Mr. Van Brunt as a witness to prove to the rest of my countrymen that there was a revival of architecture, mostly evident in the years between 1881 and 1891, and most prominently expressed in the city of Chicago. These were the years in which Henry Hobson Richardson, John Wellborn Root, Louis H. Sullivan and many others produced their first works in that city. Their students and draftsmen are now the leading architects of the Middle West, and added to them are the graduates of the École des Beaux-Arts in France, the Massachusetts Institute of Technology, Cornell University, the University of Illinois and many other schools of architecture established in the United States since Mr. Hunt returned from France.

The only check to the progress of the

architectural revival between the years 1881 and 1891 was the influence of the Renaissance and classical architecture of the great buildings of the Columbian Exposition supplemented by the "discovery" of the so-called Colonial style, which, as guiding factors, still hold sway among many architects, who are influenced in their practice by the educated *dilettanti* among their clients. And here it may be mentioned that in the course of the collection of material for illustrating this article I have learned that a large part of the "Colonial" buildings recently erected are the result of the instructions of clients rather than the recommendation of the architects.

During these years the sons and daughters of those who have accumulated great wealth have been highly educated. This younger generation has exercised a marked influence in encouraging the evolution of a better architecture, which is the result of serious thought and a settled purpose to create a style which expresses the functional purposes of buildings in terms of art.

It is hoped that the illustrations here given may serve to explain this. They have not been selected to form part of an argument, and are the free will offerings that have been received as a result of a circular letter that has been addressed to more than forty architects in the Middle West. They are from twenty-one architects, half of the number invited, who happened to be able to enter this symposium with illustrations of recent works.

A word more as to why it has been decided to confine this discussion to illustrations of country and suburban architecture. Architecture as a living art can not come altogether from architects. Architectural art represents the current condition of architectural education as administered at the time when it is produced. Architecture of the people represents that which their influence upon the architects, who are the instruments of its expression, enable the architects to produce according to their understanding of the needs of the people. It is not in public or commercial buildings, manufacturing buildings or many other

classes that might be mentioned that the people exert their individual influence upon the architecture of their country, but in their homes where they and their families expect to pass their lives. And, to be more exact, it is not in their city homes where, in the planning and design, they are often prejudiced by environment and the opinions of others, but in their country houses that their influence is most directly seen in the planning and design of the house in which they expect to pass their leisure hours, free from all extraneous influence. Such a house becomes the direct expression of their needs and desires.

The men and women who build homes in the country to-day, being better educated than their forefathers, are more apt to call to their assistance the best thought and experience in the architectural profession. Without trained architects and their expert assistance country house architecture might revert to what it was forty years ago, and the ideas of laymen might continue to be expressed in freaks of fancy without grammatical construction or any element of beauty.

Architectural progress is only possible through the instrumentality of competent architects. It is fortunate, therefore, that the Middle West is now supplied with a corps of such men, educated in schools of art, and capable of carrying out the ideas of well-intentioned and intelligent men and women. As I have said on other occasions, the development of architecture as a living art is possible only when trained architects are encouraged and sustained by an intelligent public. It is the purpose of this article to show what has been thus far accomplished in the Middle West in this direction, and it is in the nature of things that an architecture of and for the people should first be found in our country houses.

The examples here shown are not illustrations of any one school of designers, but are of considerable variety in the details of design. They demonstrate the force of what has been said above, exhibiting not only variety in the method of handling the various problems, but an array of buildings in which there is a

great diversity in the item of cost. There are very few that were beyond the reach of men of moderate fortunes, and some are of the simplest character, built of wood, or of frames covered with stucco. The indications in these examples of a conformity to certain principles in construction and design are prominent and are part of the evidence that in certain respects "style" has grown from a common experience. For instance, the greater number are "long" rather than "square," as was formerly the case. The square country house with a stairway in the middle is a thing of the past. The long side is now the entrance front. The main stairway receives its light from one of the "fronts" and not from a skylight. It is a distinctive feature both for the interior and exterior design. Another prevailing feature is that the buildings are "low," with deep projecting eaves, low ceilings compared with those of former days, and low roofs, yet visible roofs, and generally covered with tile of the prevailing manufactures, and very few with slate. Where shingle roofs are used they are either of cedar or cypress. One of the houses, that of Mr. J. M. Olin, at Madison, Wisconsin, by George B. Ferry, of Milwaukee, is covered with hand-split cypress shingles, because the owner preferred them to slate to avoid sun heat in the third story, which is finished off with rooms.

Some of these houses were of moderate cost and such as are not often illustrated in architectural publications, among which may be mentioned the house of Dr. A. Lagorio, at Delavan Lake, Wisconsin, by Victor Andre Matteson, of La Salle; of William Balhatchet, at Evanston, Illinois, by Lowe and Bollenbacher, Chicago; of H. E. Byram, Evanston, Illinois, by Edgar Ovet Blake, of Evanston, and of H. R. Wilson, at Libertyville, Illinois, by H. R. Wilson and Company. The last is an illustration of a house built by an architect for his own use and is interesting for that reason. They are confessedly frame houses, while the first three have stucco finish on the outside, and it is uncertain whether they are of frame construction or built with



HOUSE OF WILLIAM BABSON, ESQ., RIVERSIDE,
ILL. LOUIS H. SULLIVAN, ARCHITECT.



HOUSE OF WILLIAM BABSON, ESQ., RIVERSIDE,
ILL. LOUIS H. SULLIVAN, ARCHITECT.

hollow tiles; but it makes no difference, for the outside finish may be the same with both constructions.

The more expensive houses speak for themselves, and want of space forbids detailed description. The prevailing tendency of using hipped roofs is shown in nearly all of the illustrations.

Two of the illustrations are from the office of Root and Siemens, of Kansas City, Missouri; one the house of H. I. Wilson and the other of J. C. Fennell, both in the environs of Kansas City. Mr. Root is a younger brother of the late John Wellborn Root, and had his training in the office of Burnham and Root, at Chicago. Their contributions are what might be termed "old-fashioned buildings," and the prophets of the so-called Colonial style can find nothing in them to commend. They are both gabled, one with brick walls and the other of rubble stone running through the whole thickness of the walls, and cut stone entrances, terraces and verandas. I quote what they say in a letter concerning this last-mentioned house: "If the details are carefully and sensibly managed, no combination offers a better prospect of success than that of native rubble masonry, red tile, ivory-white woodwork, with a touch of cut stone and wrought iron carefully introduced. No other seems more at home in the setting provided by our skies, luxuriant foliage and bluegrass lawn, as often as not pierced by outcroppings of the native stone of the walls and surrounded by dry walls of the same material."

There are among the illustrations seven houses showing the influence of what might be called the Sullivan school of design in honor of its foremost exponent, Louis H. Sullivan; one by himself, the William Babson house at Riverside, Illinois; also the group of buildings comprising the home and its surroundings of Frank Lloyd Wright at Spring Green, Wisconsin, part of which were destroyed by fire a year ago and have been rebuilt; also the house and grounds of E. W. Decker, at Holdridge, Minnesota, near Lake Minnetonka, by Purcell and Elmslie, Minneapolis; two houses by

White and Christie, Chicago; one by Tallmudge and Watson, Chicago, and one by John S. Van Bergen, Oak Park. A distinctive feature of these houses is that most of them have been planned in accordance with the dominant surroundings of the landscapes in which they are set and that considerable portions of them are only one story in height. Generous use is made of the land for every purpose except sleeping rooms, and in Mr. Wright's house the sleeping rooms are on the ground floor, while in portions which follow the natural inclinations of the site there are stories below the main floor. In the house of Mr. Decker the greatest reverence has been shown to splendid trees, which have controlled the different parts of the extended group of buildings, and through which vistas have been preserved. The architects have been fortunate to secure photographs which have preserved the effect of *chiaroscuro* through the trees in which their relative distances have been preserved. These trees are also shown on the ground plan in a conventional manner conceived only by Mr. Elmslie, who made the entire drawing "free hand" with ink. Description would be wasted on these splendid illustrations which speak for themselves.

Some readers may ask: "Where is the architecture in all these houses?"—referring not especially to those just mentioned, but to all the illustrations in this article. I can only say that, with the exception of a few that some critics will call "English" and others "Colonial," the element of *beauty* seems to have stepped in when the "historical styles" have remained at home. I believe that all these architects were endeavoring to build beautiful houses and that was their main object after complying with the desires of their clients to provide them with convenient and comfortable country or suburban homes. And just in so far as the historical styles are not evident in them there is the best evidence that they have *style* in a greater or less degree. They are merely evidences of progress in American architectural history, precursors of what our successors may con-



ENTRANCE TO RESIDENCE PART, WITH BELL TOWER—ESTATE OF FRANK LLOYD WRIGHT.
SPRING GREEN, WIS.

Frank Lloyd Wright, Architect.

tinue to do and leading up to a more general recognition of the importance of truth and beauty in art in other classes of buildings.

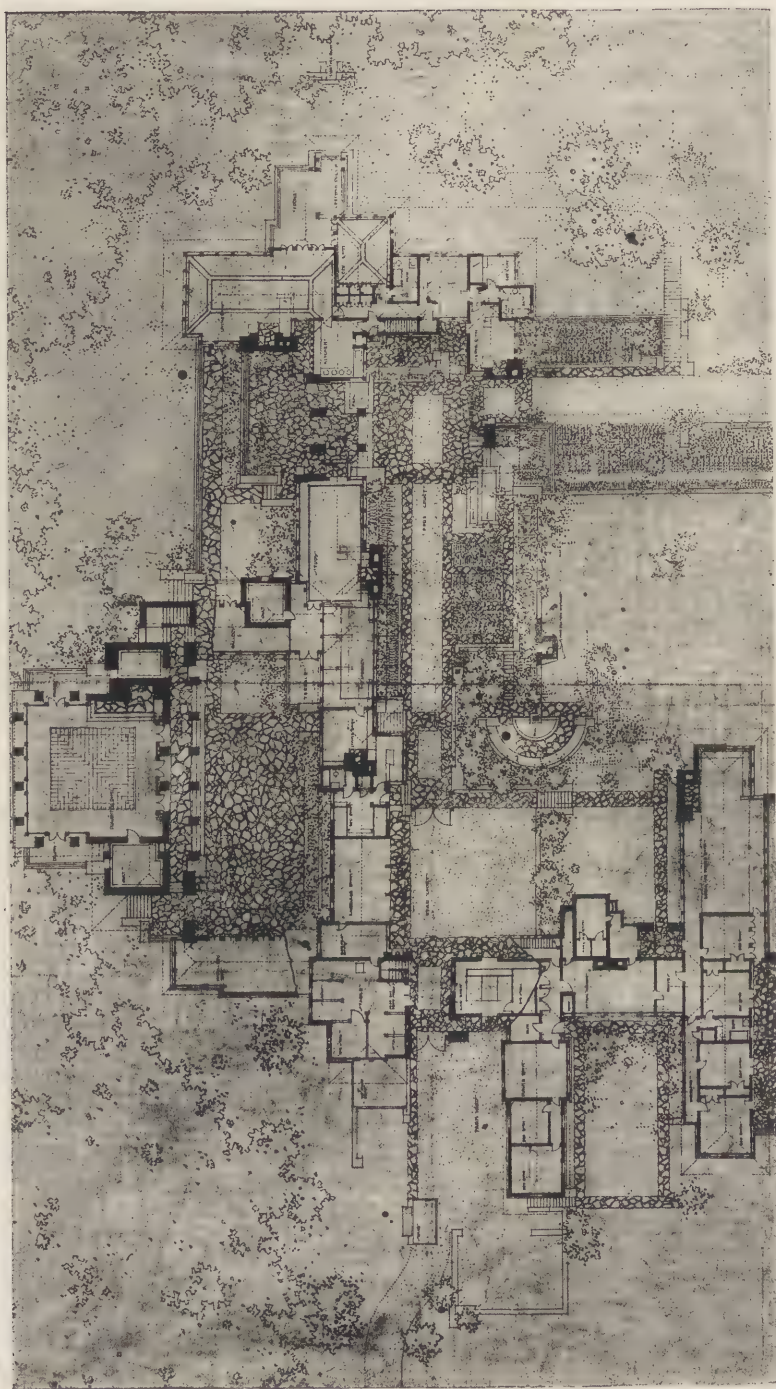
While I commenced with an extract from the late Henry Van Brunt's remarkably hopeful, if not prophetic, paper written for the general public twenty-six years ago, I will conclude with a few extracts which it will be wise for both architects and laymen to ponder and remember at this present time.

Speaking of the work he saw in the Middle West that had been done during the ten years previous to the time when he wrote, he said in the beautiful diction for which he was famous:

"The hope that we are entering upon such an era rests mainly upon the fact that the characteristics of the best new work of the [Middle] West are based, not on the elegant dilettanteism, which is appreciated only by the elect, but by the frank conversion of practical building into architectural building without affectation or mannerisms; thus appeal-

ing directly to the common sense of the people, and erecting a standard which they may be capable of comprehending. It is based on a sleepless inventiveness of structure; on an honest and vigorous recognition of the part which structure should play in making a building fitting and beautiful; on an intelligent adaptation of form to the available building materials of the [Middle] West; upon the active encouragement of every invention and manufacture which can conduce to the economy or perfecting of structure and the embellishment of structure; upon an absolute freedom from the trammels of custom, so that it shall not interpose any obstacles of professional prejudice to the artistic expression of materials or methods; and, finally, upon how to produce interesting work without an evident straining for effect."

This I conceive to be a clear statement of the principles which underlie the spirit of architecture in the Middle West to-day; and which are now making it a



GROUP OF BUILDINGS ON ESTATE OF FRANK LLOYD WRIGHT, SPRING GREEN, WIS., INCLUDING RESIDENCE, ARCHITECTURAL OFFICE, FARM BUILDINGS, FARMER'S DWELLING AND DORMITORIES FOR EMPLOYEES. FRANK LLOYD WRIGHT, ARCHITECT.



GENERAL VIEW OF FORE COURT AS SEEN FROM THE
GRANARY-ESTATE OF FRANK LLOYD WRIGHT, SPRING
GREEN, WIS. FRANK LLOYD WRIGHT, ARCHITECT.



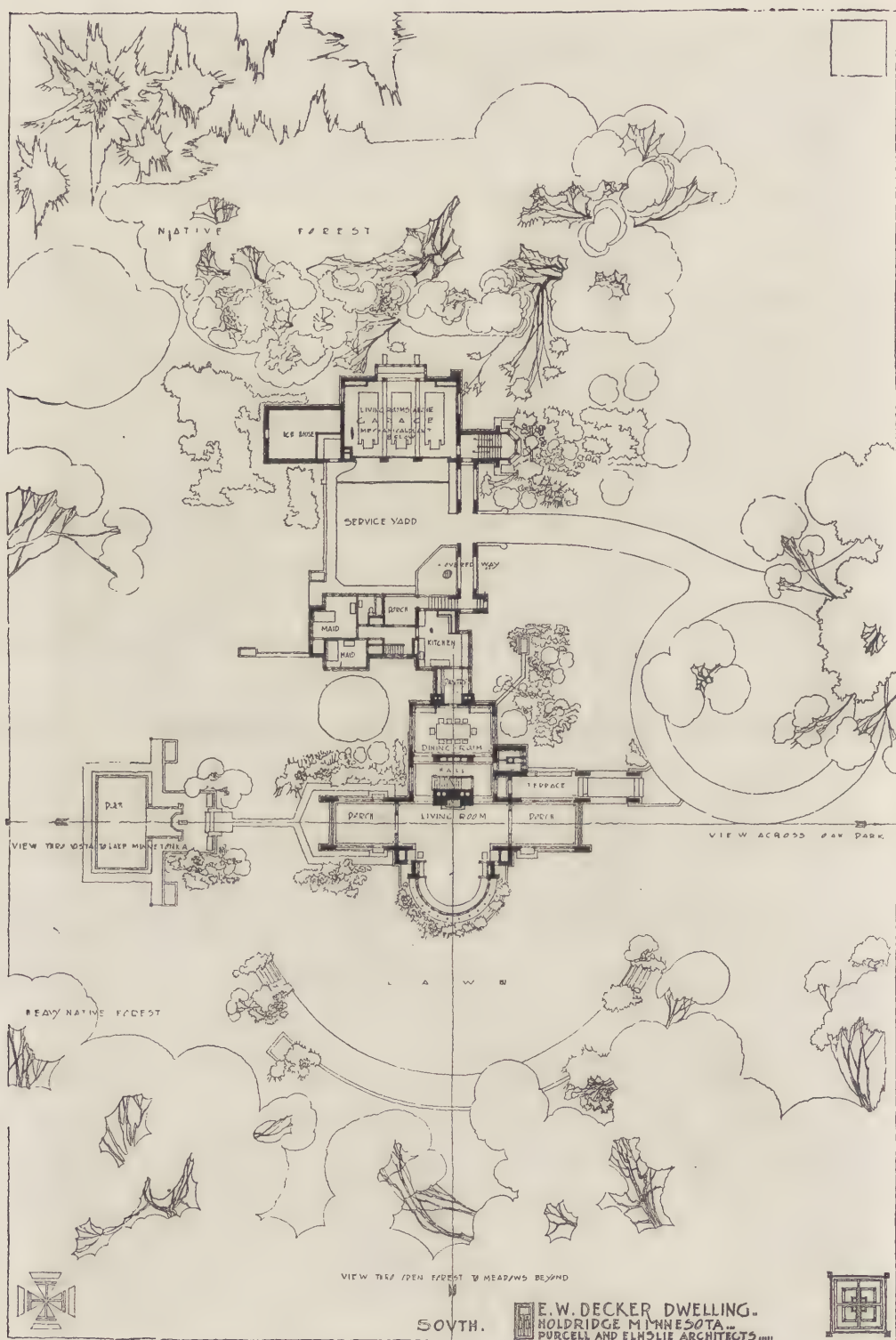
MAIN APPROACH TO ENTIRE GROUP OF BUILDINGS—ESTATE OF FRANK LLOYD WRIGHT,
SPRING GREEN, WIS.
Frank Lloyd Wright, Architect.



ENTRANCE TO FORE COURT—ESTATE OF FRANK LLOYD WRIGHT, SPRING GREEN, WIS.
Frank Lloyd Wright, Architect.



LIVING ROOM—HOUSE OF FRANK LLOYD WRIGHT, SPRING GREEN, WIS. FRANK LLOYD WRIGHT, ARCHITECT.





SOUTH FRONT—HOUSE OF E. W. DECKER, ESQ., HOLD-
RIDGE, MINN. PURCELL & ELMSLIE, ARCHITECTS.



VIEW FROM DRIVE—HOUSE OF E. W. DECKER, ESQ.,
HOLDRIDGE, MINN. PURCELL & ELMSLIE, ARCHITECTS.



VIEW AT ENTRANCE TOWARD SERVICE WING
—HOUSE OF E. W. DECKER, ESQ., HOLDRIDGE,
MINN. PURCELL & ELMSLIE, ARCHITECTS.



GARAGE AND SERVICE COURT—HOUSE OF
E. W. DECKER, ESQ., HOLDRIDGE, MINN.
PURCELL & ELMSLIE, ARCHITECTS.



DETAIL—HOUSE OF E. W. DECKER, ESQ., HOLDRIDGE,
MINN. PURCELL & ELMSLIE, ARCHITECTS.



HOUSE OF GUSTAVUS BABSON, ESQ., OAK PARK, ILL.
Tallmadge & Watson, Architects.



LIVING ROOM—HOUSE OF GUSTAVUS BABSON, ESQ., OAK PARK, ILL.
Tallmadge & Watson, Architects.



HOUSE OF JAMES A. GREEN, ESQ., KENILWORTH, ILL.
Tallmadge & Watson, Architects.



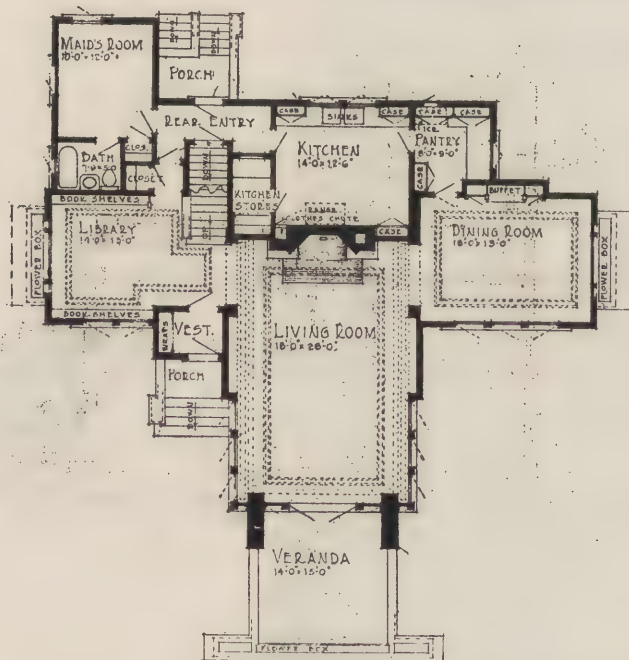
LIVING ROOM—HOUSE OF JAMES A. GREEN, ESQ., KENILWORTH, ILL.
Tallmadge & Watson, Architects.



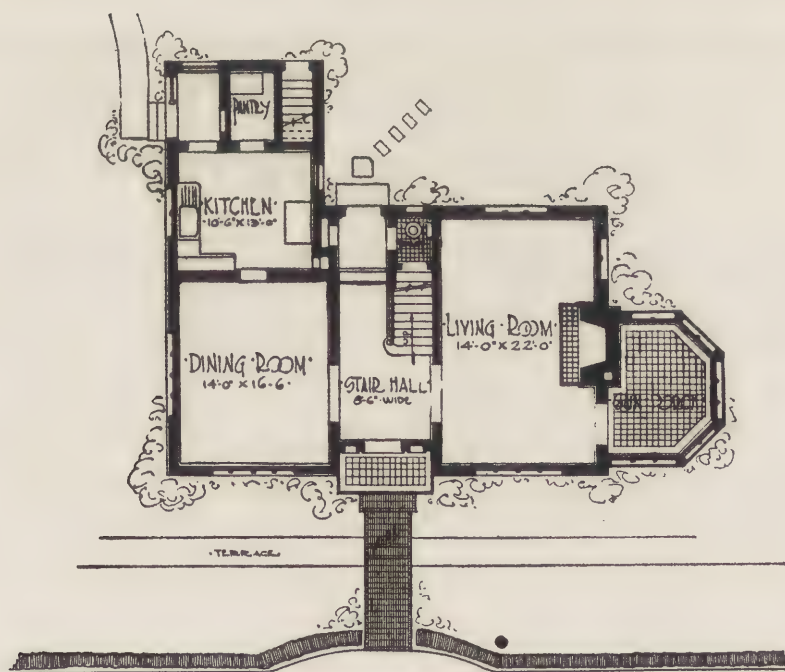
HOUSE OF J. HALL TAYLOR, ESQ., OAK PARK, ILL.
George W. Maher, Architect.



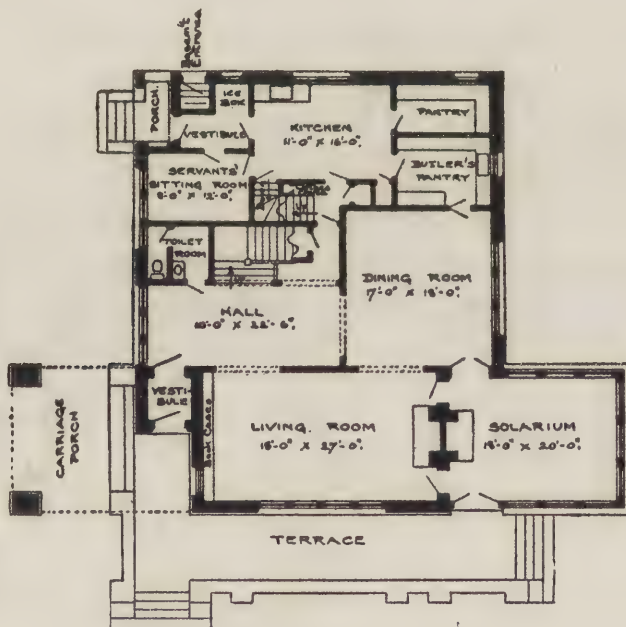
HOUSE OF SIDNEY OSSOSKI, ESQ., CHICAGO.
George W. Maher, Architect.



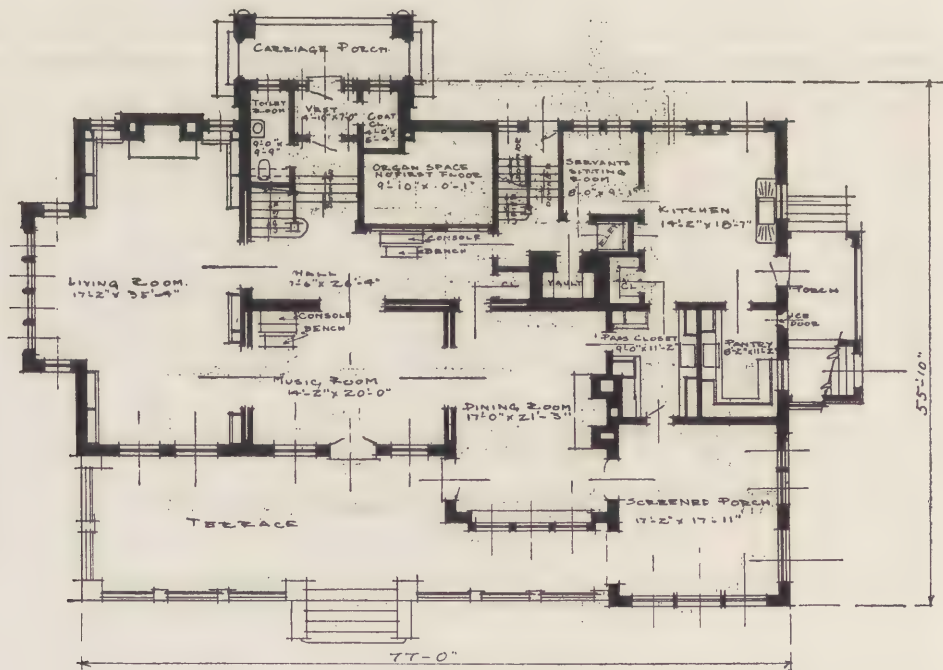
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF C. PERCY SKILLIN, ESQ., WILMETTE,
ILL. JOHN S. VAN BERGEN, ARCHITECT.



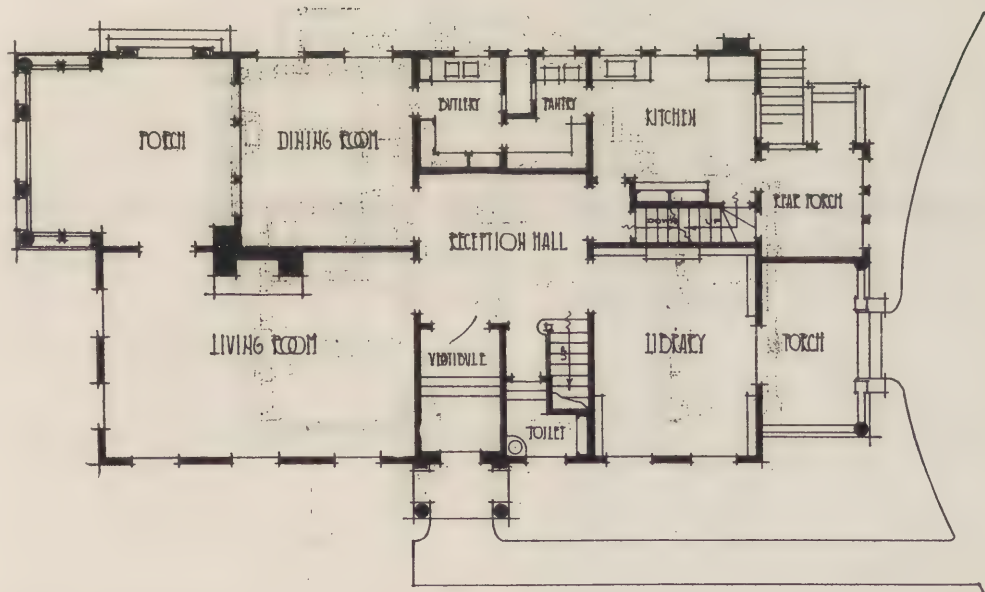
VIEW AND PLAN OF FIRST FLOOR—HOUSE OF
WILLIAM BALHATCHET, ESQ., EVANSTON, ILL.
LOWE & BOLLENBACHER, ARCHITECTS.



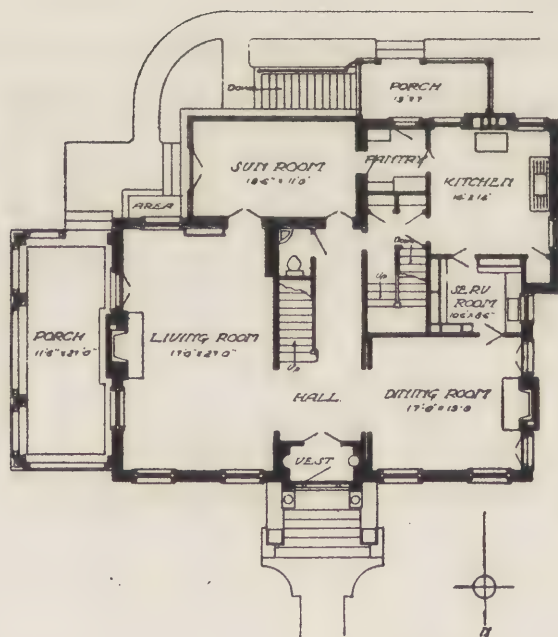
VIEW AND PLAN OF FIRST FLOOR—
HOUSE OF H. E. BYRAM, EVANSTON,
ILL. EDGAR OVET BLAKE, ARCHITECT.



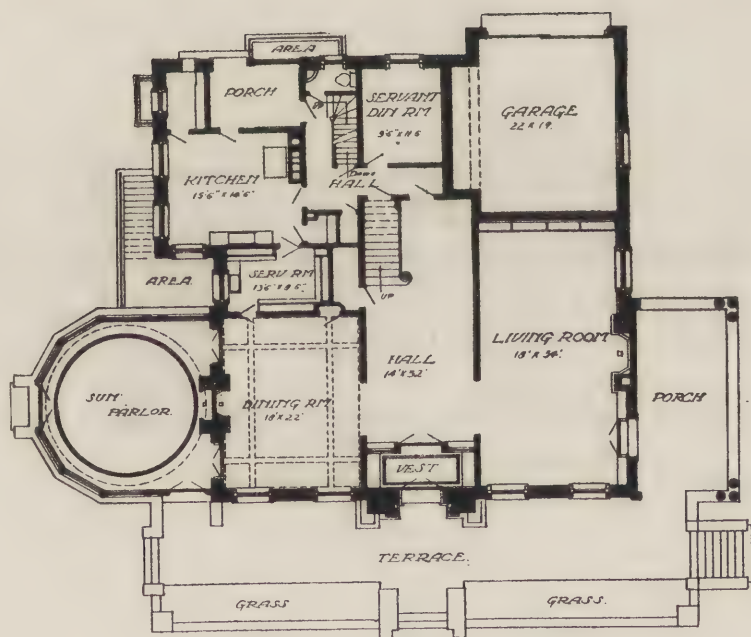
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF E. C. CROSSETT, ESQ., DAVENPORT,
IOWA. TEMPLE & BURROWS, ARCHITECTS.



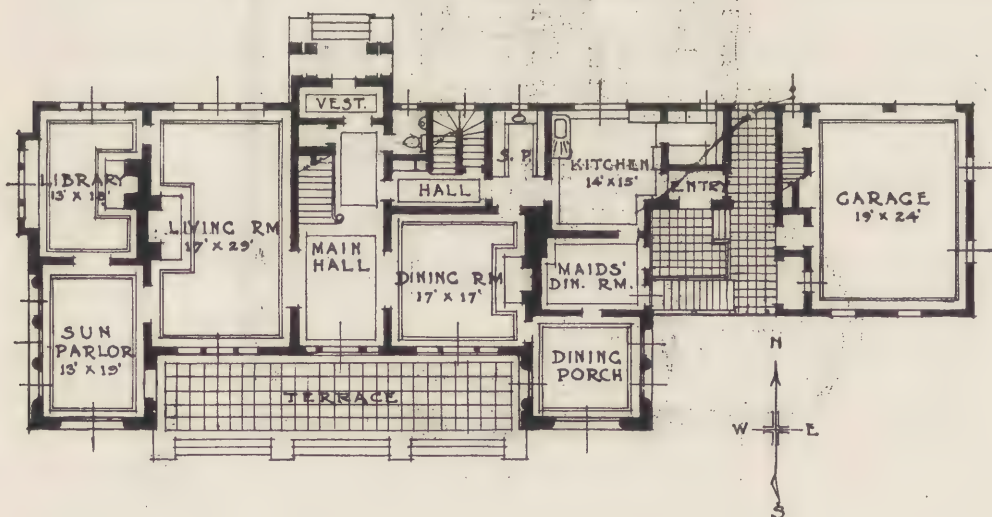
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF H. R. WILSON, LIBERTYVILLE, ILL.
H. R. WILSON & CO., ARCHITECTS.



VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF J. R. WOODWORTH, ESQ., KANSAS CITY,
MO. ROOT & SIEMENS, ARCHITECTS.



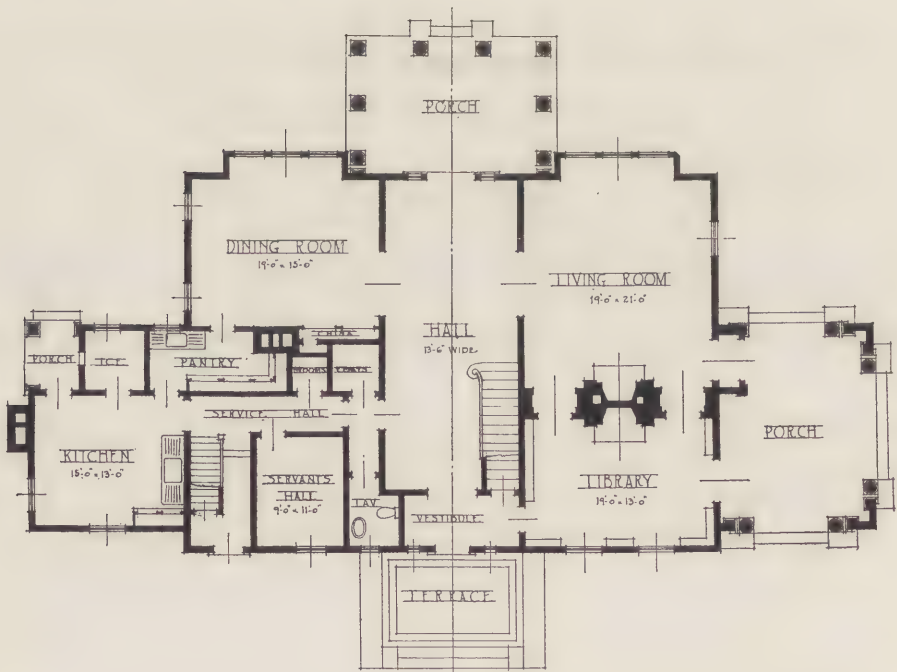
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF H. I. WILSON, ESQ., KANSAS CITY,
MO. ROOT & SIEMENS, ARCHITECTS.



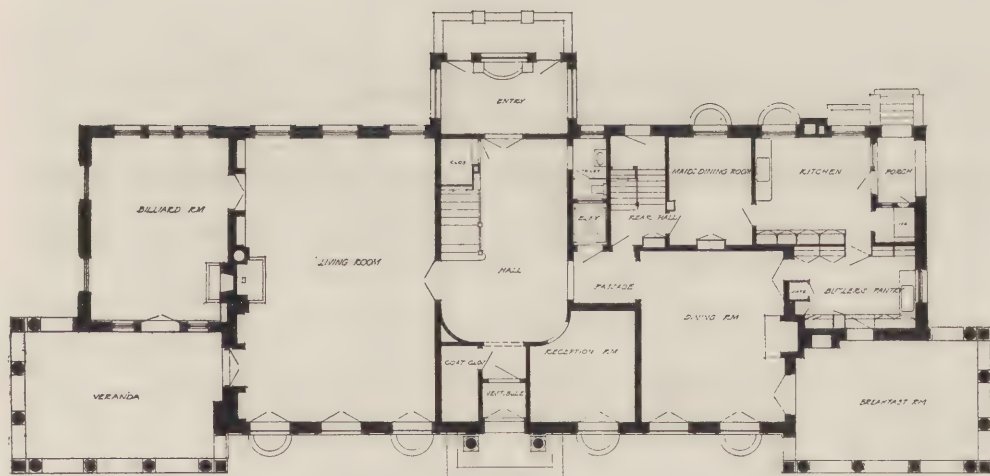
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF E. M. SKINNER, ESQ., EVANSTON, ILL.
CHATTEN & HAMMOND, ARCHITECTS.



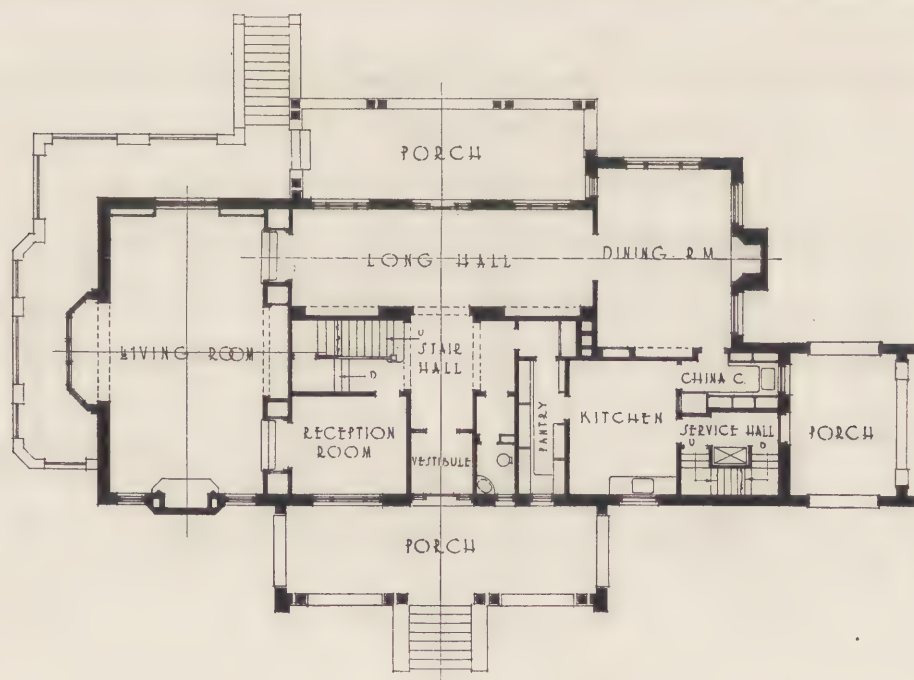
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF E. V. PRICE, ESQ., HIGHLAND PARK,
ILL. ERNEST A. MAYO, ARCHITECT.



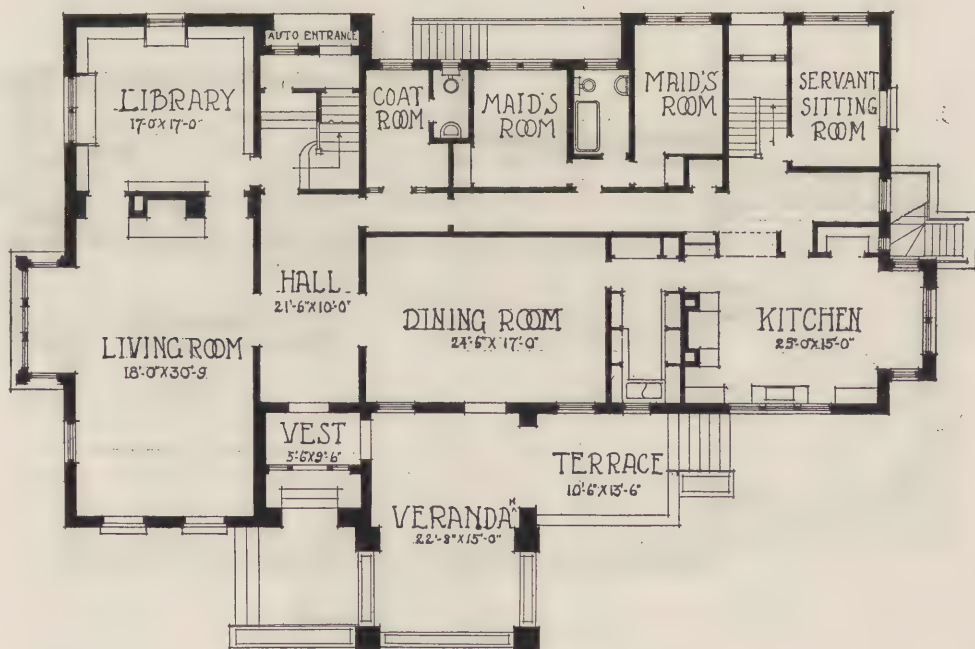
VIEW AND PLAN OF FIRST FLOOR—HOUSE OF HERMAN DANFORTH, ESQ., WASHINGTON, ILL. HEWITT & EMERSON, ARCHITECTS.



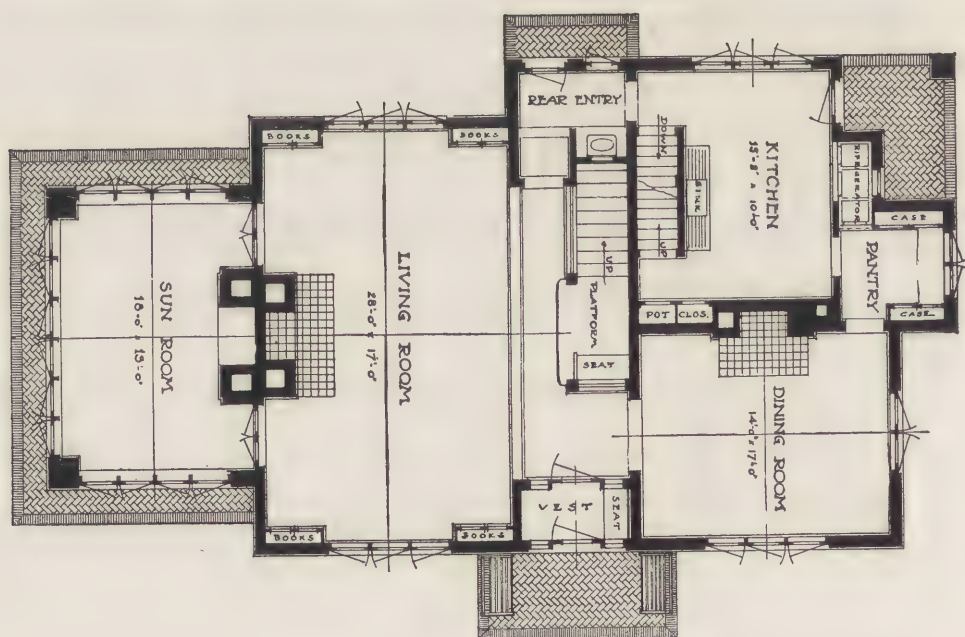
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF BENJAMIN SIEGEL, ESQ., DETROIT,
MICH. ALBERT KAHN, ARCHITECT.



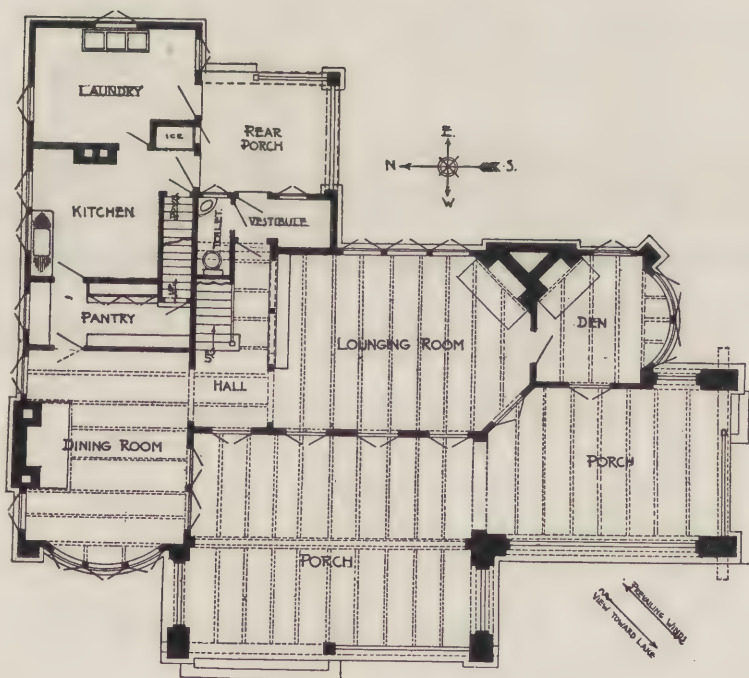
VIEW AND PLAN OF FIRST FLOOR—
HOUSE OF J. M. OLIN, ESQ., MADISON,
WIS. GEORGE B. FERRY, ARCHITECT.



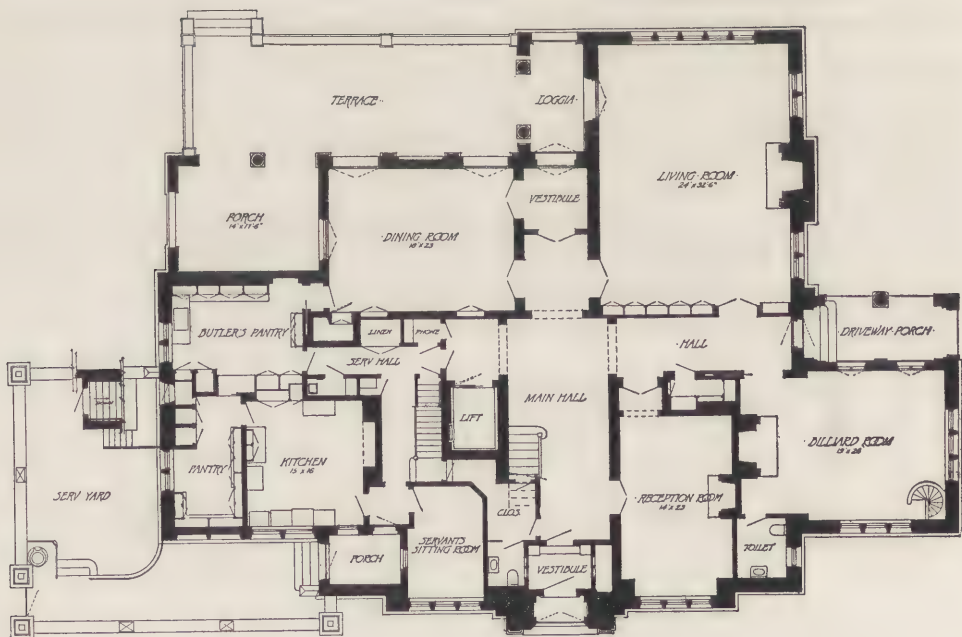
VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF E. H. FAHRNEY, ESQ., OAK PARK,
ILL. CHARLES E. WHITE, JR., ARCHITECT.



VIEW AND PLAN OF FIRST FLOOR—HOUSE OF DR. H. L. WHITENER, NORTH OF ST. LOUIS, MO. HELF-ENSTELLER, HIRSCH & WATSON, ARCHITECTS.



VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF DR. A. LAGORIO, DELAVAN LAKE,
WIS. V. A. MATTESON, ARCHITECT.



VIEW AND PLAN OF FIRST FLOOR—HOUSE OF LEM W. BOWEN, ESQ., DETROIT, MICH. GEORGE D. MASON, ARCHITECT; ALBERT C. McDONALD, ASSOCIATE.



HOUSE OF JOHN W. GARY, ESQ., GLENCOE, ILL.
Frederick W. Perkins, Architect.

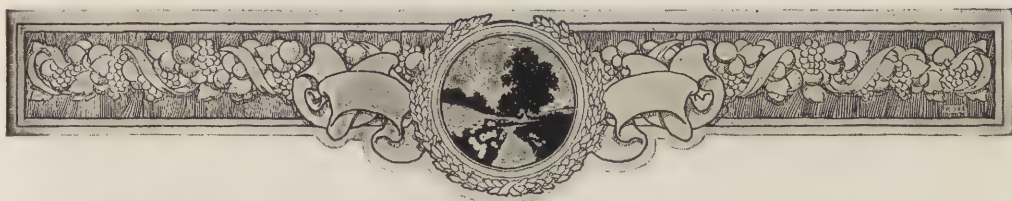
living art. So, as a fitting conclusion, I will add these few words of Mr. Van Brunt that we can readily imagine he is saying to us to-day:

"It would have been easiest for them to quote with accuracy and adopt with grace the styles of the Old World; to be scholarly, correct, academical, and thus to stand apart from the sympathies of the people, and to constitute themselves an aristocratic guild of art. They preferred to play the more arduous and nobler

part; to become, unconsciously, ministers of an architectural reform so potent and fruitful, so well fitted to the natural conditions of the strenuous liberty of the [Middle] West, that one may already predicate from it the speedy overthrow of the temporary, experimental, transitional vernacular art of the country, and the establishment of a school which may be recognized in history as the proper exponent of this marvelous civilization."



STEPS FROM LOWER GARDEN, LEADING TO UPPER
TERRACE—HOUSE OF MISS CORDELIA A. CULBERT-
SON, PASADENA, CAL. GREENE & GREENE, ARCHITECTS.



COUNTRY HOUSE ARCHITECTURE ON THE PACIFIC COAST

BY LOUIS CHRISTIAN MULLGARDT

GOOD architecture is necessarily harmonious with its immediate surroundings, however much it may bear the stamp of a progenital style. The principles governing good architecture are taste, education, industry, climate, topography, horticulture, and modern essentials which insure human health and happiness.

The Pacific Coast States, Washington, Oregon and California, are topographically and climatically separated from the other forty-five States of the Union. The Sierra Nevada Mountains constitute an indestructible barrier, the traffic connections between the East and West being formed through and not over this great mountain range.

These three Coast States contain a square mileage that is practically equal in area to the thirteen Atlantic Coast States, reaching from Canada to the northern borders of Florida. The present population of the West Coast States is between three and four million, whereas there are about twenty-five million in the thirteen Atlantic Coast States.

The total area of these Coast States is about equal to six Mississippi Valley States, stretching from the Canadian frontier to the Gulf of Mexico, which contain a population of approximately eighteen million. They have an area equal to that of the combined square mileage of France and Italy, whose combined population is about eighty million.

As a result of the construction of the Panama Canal these States will receive a greatly increased immigration, and, incidentally relieve the great burden of responsibility borne by sister States along the Atlantic.

The Pacific Coast States will make provision for proper dissemination of pilgrims over the fertile lands of this Furthest West country, for the general betterment of human conditions. It is planned that Coast cities shall not be subject to congested conditions of struggling humanity which require years of support and national development at community expense, as is true of cities along the Atlantic seaboard.

Modern civilization has effected a marvelous industrial development along the Pacific Coast, out of which much good modern architecture has emanated.

Opportunities for industrial development and human health and happiness are greatly affected by climate and geological conditions. Oregonians, Washingtonians and Californians, native born and otherwise, are prone to giving great praise to their own State. Such laudation is prompted by natural tendency of nature-worship and not self-praise. A balmy climate, fertile soil, glorious forests and beautiful mountains constitute that which the inhabitants of the Pacific Coast really pride themselves on. They genuinely desire that all those who can will join them in enjoying this wonderful land of wine and honey, where health and happiness are a natural product.

The bountifulness of this El Dorado is as varied and interesting as may be found anywhere. Its soil, mines, fields, orchards and vineyards are of superior quality. Its immense forests, giant trees and oil fields offer marvelous opportunities, yet untouched. Its mountain snow-waters require intelligent planning to provide for proper conservation through correct development best to serve fertile valleys.

Along the sea border winter snows and summer heat are most uncommon, whereas interior valleys have typical summer and winter weather in degrees of temperature which do not unduly tax human endurance.

Each year is climatically divided into two seasons over the greater area—rainy and rainless; the latter extends from April to November.

Fertile valleys are clustered and dotted with varieties of oak, eucalyptus, cypress and poplar. The indigenous oaks have low, sturdy trunks with zigzag limbs, thickly covered with verdure both summer and winter. They resemble in form gigantic mushrooms and customarily lean with the direction of prevailing winds.

The eucalyptus, cypress and poplars reach high, like steeples, over the general average.

When the rains come these evergreen trees of abundant tracery and dark green foliage are set in bright green verdure. As springtime approaches, fresh green pastures become richly set with white, yellow and purple flowers, which make Fairyland seem an unquestionable place.

Forests of leviathan redwoods and giant coniferous trees of great variety constitute cathedrals of surpassing impressiveness, wherein man and beast silently worship.

The low hills are carpeted in pasturage, like the valleys. Arroyas are fringed with clusters of dwarf oak where winter rains shed abundantly. Thickly set live oak, buckeye, pine, fir, wild lilac, red berry and madroño grow out of a thicket of manzanita and sturdy chaparral, fringed with giant fern and wild flowers innumerable.

In settings like these, so perfect in natural glory as to make word description inadequate, destructive and constructive man takes occasion to house himself according to uncertain personal whims.

It is not within the power of man to enhance natural beauties of hill or valley. Suitable habitations must nevertheless be provided to fulfill modern needs and ideals of civilization. Therefore, superior mankind ascertains how best to exercise intelligence, to do as little destructive work to perfect landscape as possible, when building habitations.

Building country homes on the Pacific Coast began during a period of Spanish-Mexican occupancy of lower and middle California, about the time when United States' independence of Great Britain's rule was asserted. This pre-modern Spanish-Mexican period continued until 1848, when California was acquired by the United States through much pressure and a little purchase.

Spanish-California ranch houses and haciendas were contemporaneous with Spanish-California missions founded by Junipero Serra and his followers, who arrived in 1769. Of these country homes mere remnants remain to record their design.

The walls were customarily built of adobe, consisting of a batter of sun-baked clay blocks reinforced with straw and weeds. They were made as the early Egyptians built their walls. Sometimes an interlocking of rough ledge stone was used, when cliffs of loose flat rock were reasonably near.

The bonding material was fresh adobe. Lime mortar of burnt calcareous rock, mixed with sand and water, constituted the cuticle for interior and exterior wall surfaces. These plaster surfaces were generally softened and embellished with color tones made of ground clay and rock mixed with water.

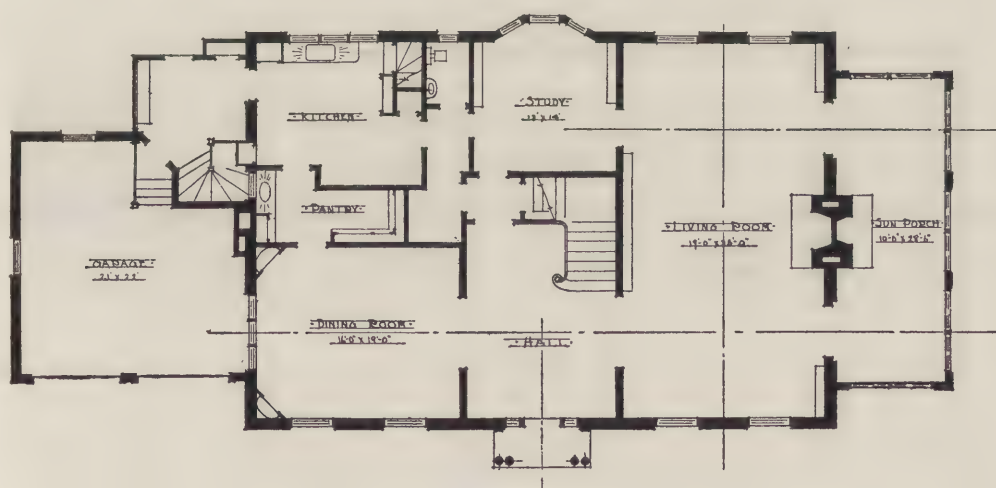
The floors were of select rough stone flagging, burnt clay or earth.

The roofs, framing and rafters were made of barked timber and saplings. The rafters, cords and purlins were sometimes covered with split shingles or shakes. Customarily, burnt clay tiles of Spanish design were used.

Old Spanish-California homes were commonly one-story structures. Their zone limit extended as far north as the Bay of San Francisco, at which point old Mission Dolores still exists.

The development of country homes north of San Francisco is properly ascribable to modern California, succeeding 1848, when gold was first discovered by a few venturesome Easterners who had trekked and fought their way across prairie, mountain and over sea to this virgin land of gold nuggets.

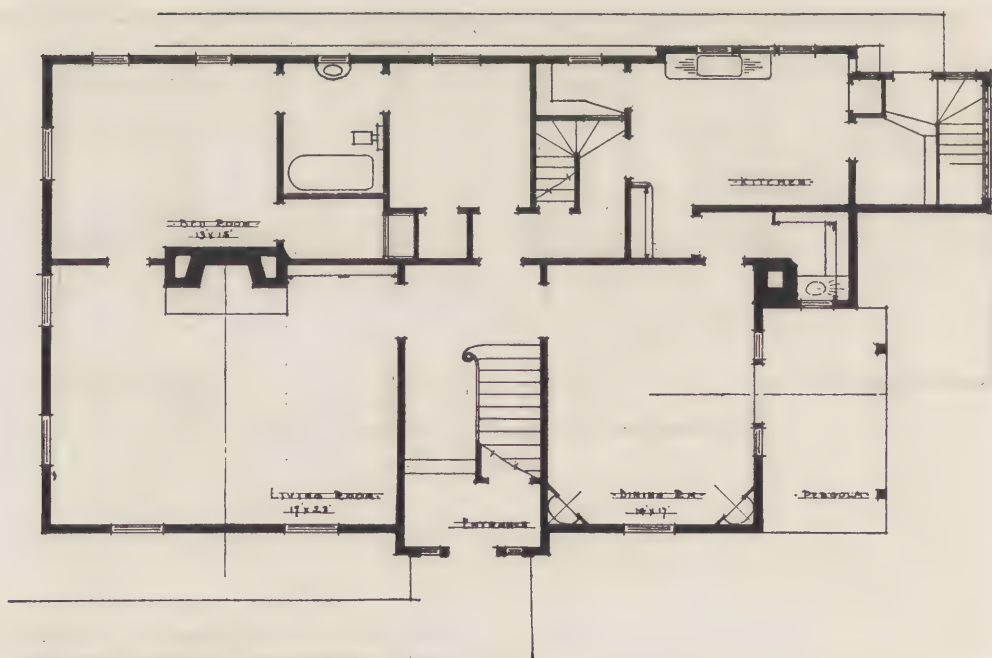
Northern California is identified with



VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF DR. FREDERICK BENTLEY, SEATTLE,
WASH. JOSEPH S. COTÉ, ARCHITECT.



HOUSE OF ARCHIBALD G. CLARK, ESQ., SEATTLE, WASH.
Joseph S. Coté, Architect.



PLAN OF FIRST FLOOR—HOUSE OF ARCHIBALD G. CLARK, ESQ., SEATTLE, WASH.
Joseph S. Coté, Architect.



HOUSE OF MRS. M. C. RUSSELL, HOLLYWOOD, CAL.
Elmer Grey, Architect.



COURT VIEW—HOUSE OF MRS. M. C. RUSSELL, HOLLYWOOD, CAL.
Elmer Grey, Architect.



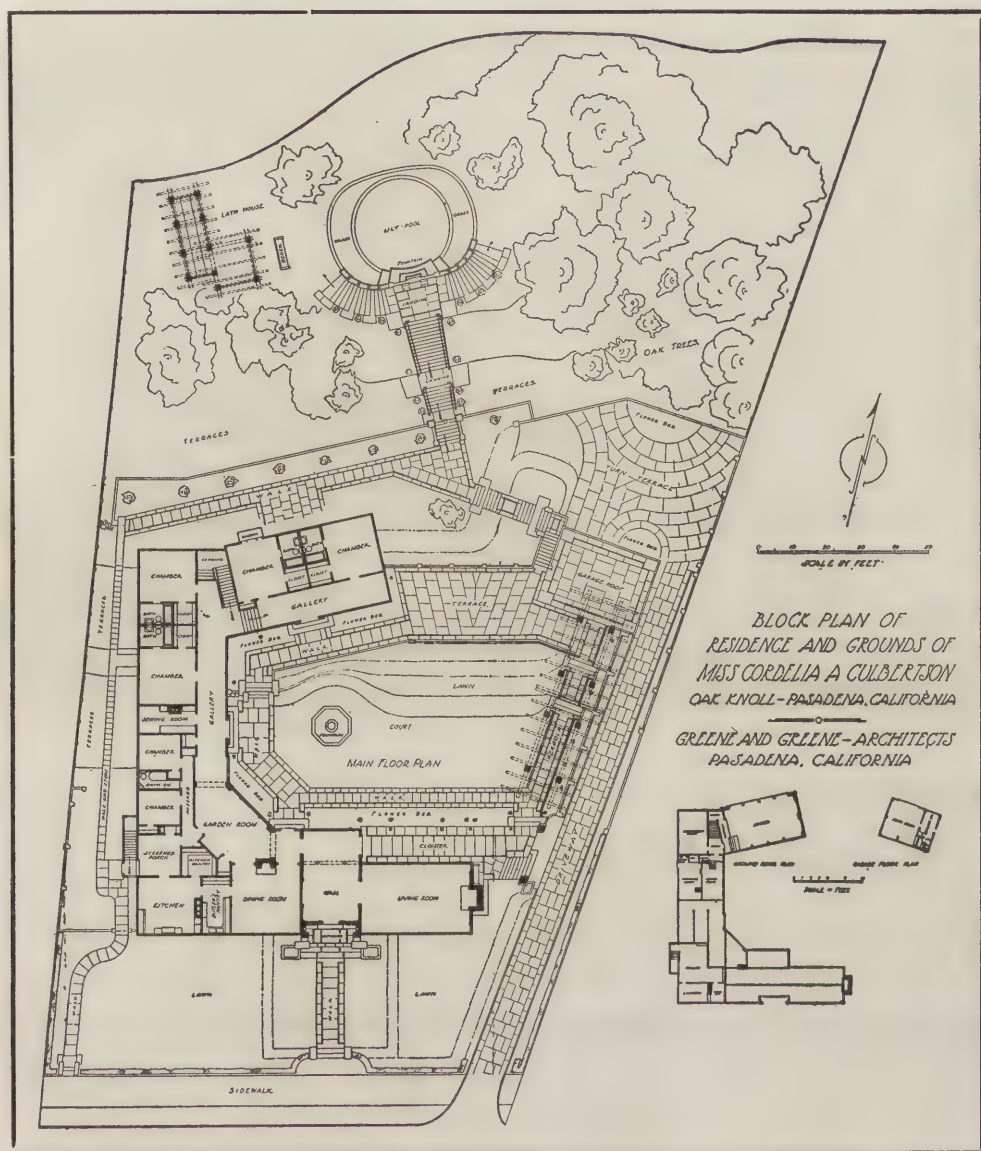
HOUSE OF ELMER GREY, OAK KNOLL, PASADENA, CAL. ELMER GREY, ARCHITECT.



SOUTH SIDE OF COURT, LOOKING WEST—HOUSE
OF MISS CORDELIA A. CULBERTSON, PASADENA,
CAL. GREENE & GREENE, ARCHITECTS.



UPPER TERRACE AND LOGGIA—HOUSE OF
MISS CORDELIA A. CULBERTSON, PASADENA,
CAL. GREENE & GREENE, ARCHITECTS.



PLAN OF HOUSE AND GROUNDS OF MISS
CORDELIA A. CULBERTSON, PASADENA,
CAL. GREENE & GREENE, ARCHITECTS.



HOUSE OF E. F. ROBBINS, ESQ., OAK KNOLL, PASADENA, CAL.
Myron Hunt, Architect.



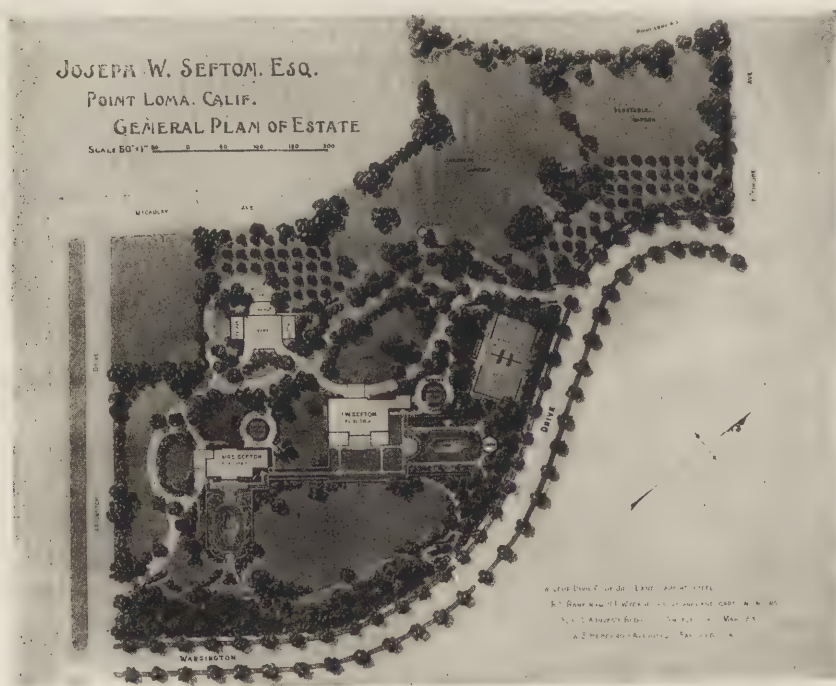
PORTICO—HOUSE OF E. F. ROBBINS, ESQ., OAK KNOLL, PASADENA, CAL.
Myron Hunt, Architect.



TERRACE-HOUSE OF E. F. ROBBINS, ESC., OAK
KNOLL, PASADENA, CAL. MYRON HUNT, ARCHITECT.



SOUTHEAST VIEW—HOUSE OF MRS. HARRIETT SEFTON CAMPBELL, POINT LOMA, CAL.
Will Sterling Hebbard, Architect.



PLAN OF ESTATE OF JOSEPH W. SEFTON, ESQ., POINT LOMA, CAL.
Will Sterling Hebbard, Architect.



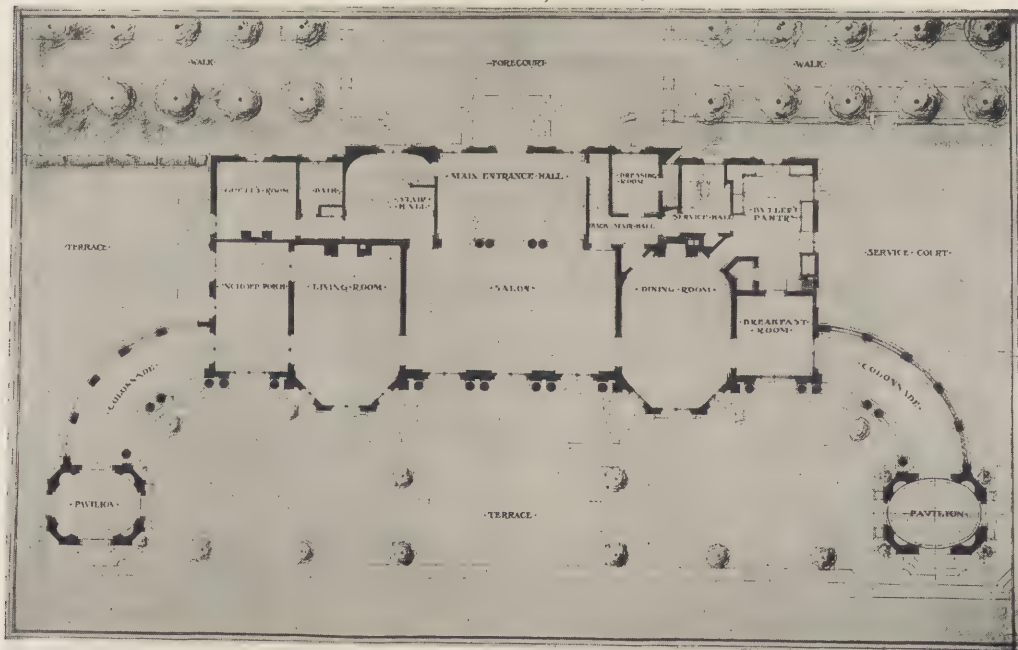
HOUSE OF J. W. SEFTON, JR., ESQ., WITH HOUSE OF MRS. HARRIETT SEFTON CAMPBELL
IN DISTANCE, POINT LOMA, CAL.
Will Sterling Hebbard, Architect.



SOUTH VIEW—HOUSE OF J. W. SEFTON, JR., ESQ., POINT LOMA, CAL.
Will Sterling Hebbard, Architect.



HOUSE OF GEORGE A. NEWHALL, ESQ., SAN MATEO, CAL.
Lewis P. Hobart, Architect.



PLAN OF FIRST FLOOR—HOUSE OF GEORGE A. NEWHALL, ESQ., SAN MATEO, CAL.
Lewis P. Hobart, Architect.



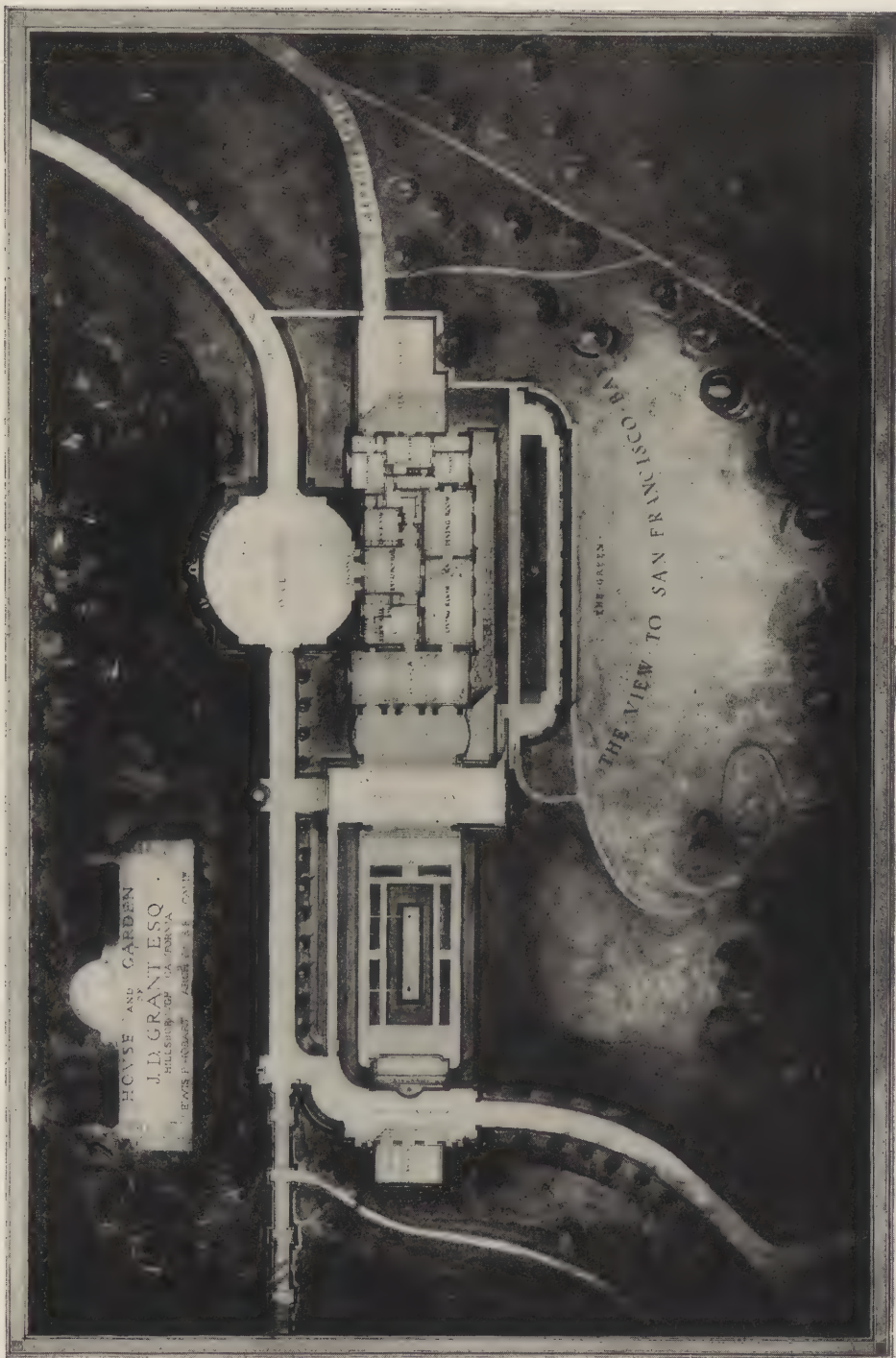
HOUSE OF ANSEL M. EASTON, ESQ., EASTON,
CAL. LEWIS P. HOBART, ARCHITECT.



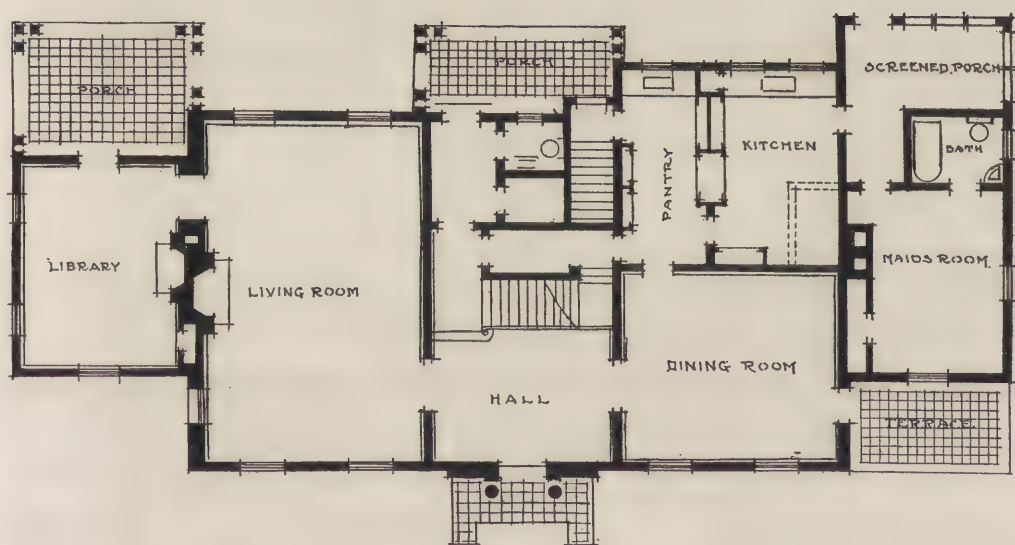
STEPS TO EUCALYPTUS GROVE, WITH ORANGERIE TO
THE LEFT—ESTATE OF J. D. GRANT, ESQ., HILLSBORO.



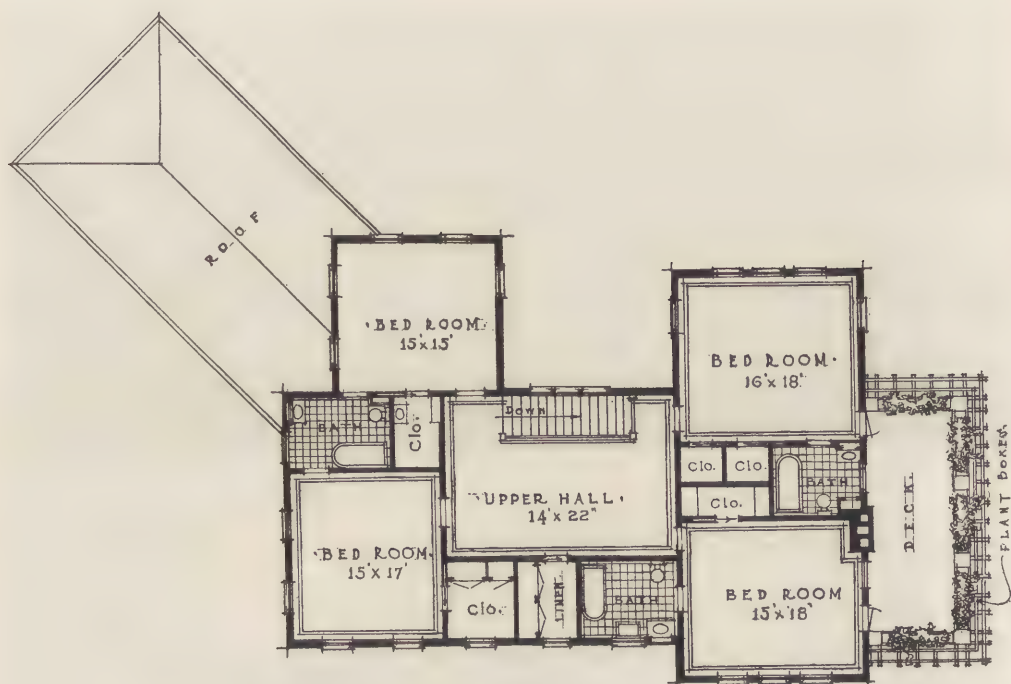
VIEW FROM ORCHARD—HOUSE OF J. D.
GRANT, ESQ., HILLSBOROUGH, CAL.
LEWIS P. HOBART, ARCHITECT.



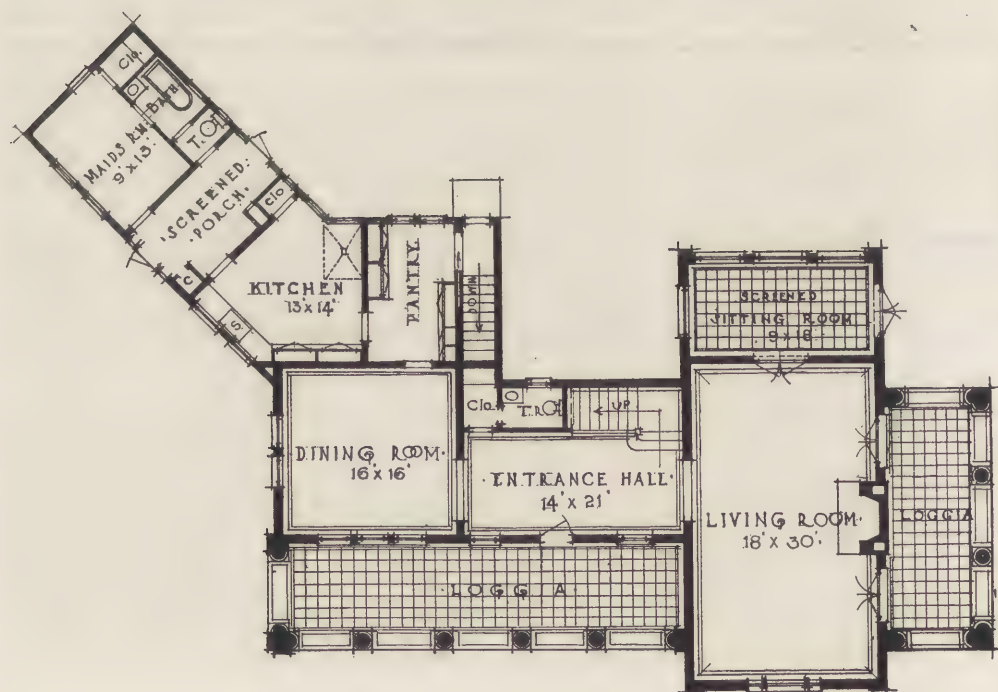
PLAN OF GARDEN AND FIRST FLOOR—
HOUSE OF J. D. GRANT, ESQ., HILLSBOR-
OUGH, CAL. LEWIS P. HOBART, ARCHITECT.



VIEW AND PLAN OF FIRST FLOOR—HOUSE
OF J. N. HARPER, ESQ., PASADENA, CAL.
REGINALD D. JOHNSON, ARCHITECT.



PLAN OF SECOND FLOOR—HOUSE AT ALTADENA, CAL.
Reginald D. Johnson, Architect.



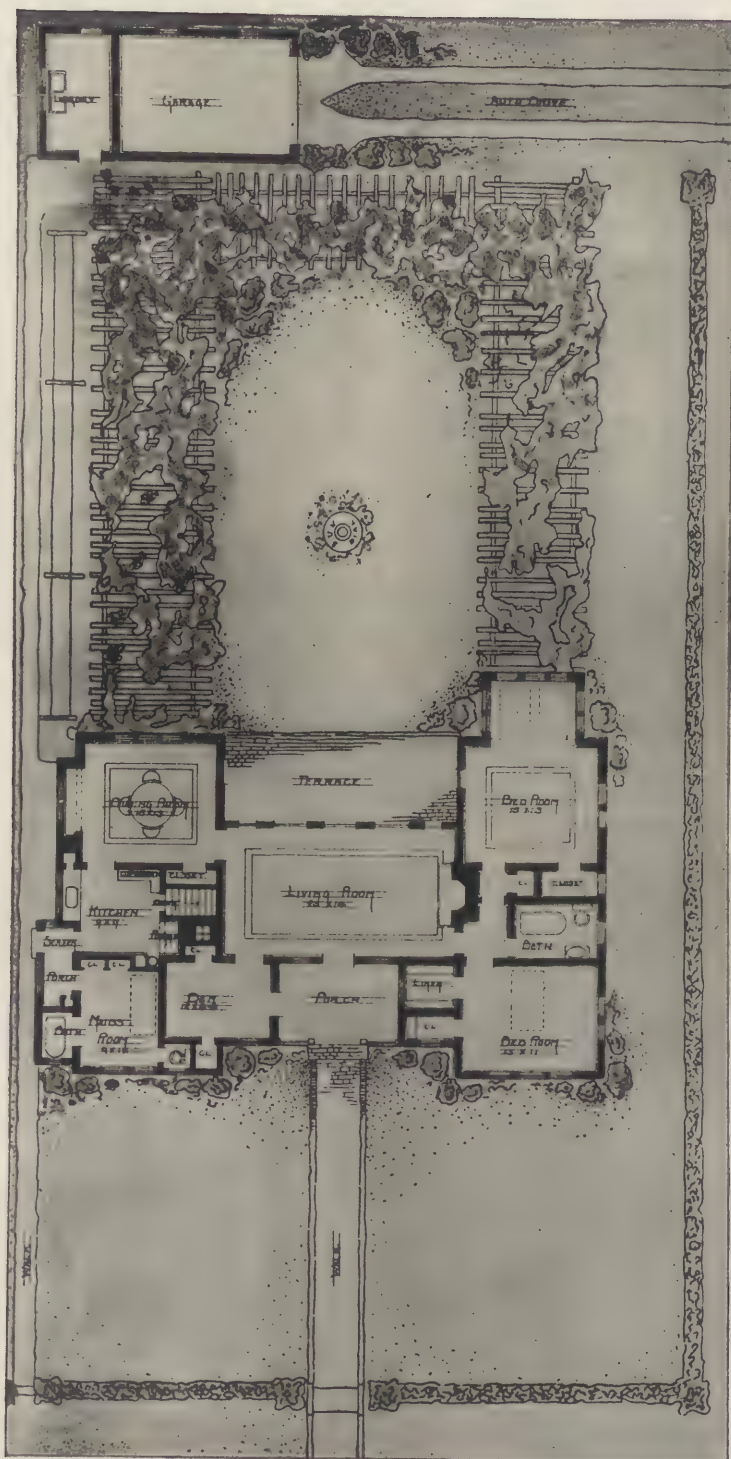
PLAN OF FIRST FLOOR—HOUSE AT ALTADENA, CAL.
Reginald D. Johnson, Architect.



HOUSE AT ALTADENA, CAL.
Reginald D. Johnson, Architect.



HOUSE AT ALTADENA, CAL.
Reginald D. Johnson, Architect.



HOUSE OF REGINALD D. JOHNSON, PASADENA,
CAL. REGINALD D. JOHNSON, ARCHITECT.



HOUSE OF REGINALD D. JOHNSON, PASADENA,
CAL. REGINALD D. JOHNSON, ARCHITECT.



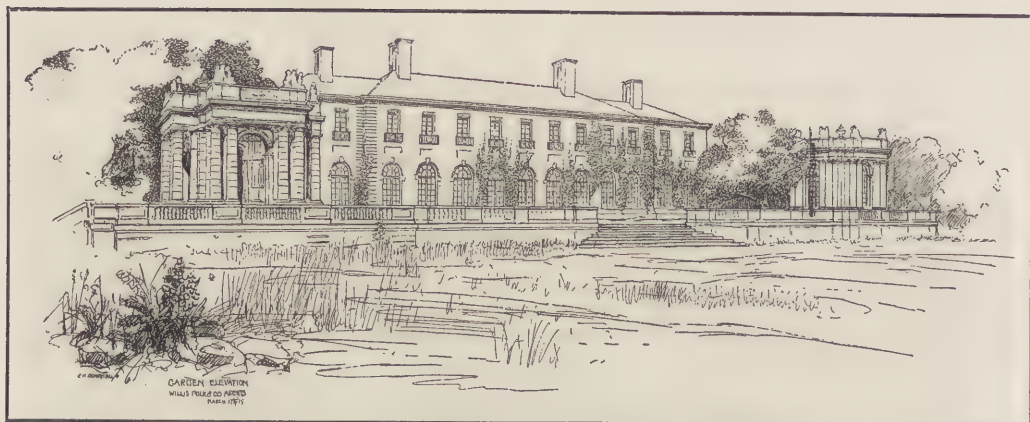
HOUSE OF CHARLES TEMPLETON CROCKER, ESQ., SAN
MATEO, CAL. WILLIS POLK & CO., ARCHITECTS.



GARDENS—HOUSE OF JAMES K. MOFFITT, ESQ., PIEDMONT HILLS, CAL.
Willis Polk & Co., Architects.



EAST GARDEN VIEW—HOUSE OF JAMES K. MOFFITT, ESQ., PIEDMONT HILLS, CAL.
Willis Polk & Co., Architects.



DESIGN OF HOUSE FOR MR. X, OVERLOOKING GARDENS.
Willis Polk & Co., Architects.



COURT OF HOUSE DESIGNED FOR MR. X.
Willis Polk & Co., Architects.



HOUSE OF DR. R. DE LECAIRE FOSTER,
LA PLAYA, POINT LOMA, SAN DIEGO, CAL.
CARLETON M. WINSLOW, ARCHITECT.

Washington and Oregon in similarity of modern development effected since 1848. Russians, who reached Alaska over Bering Sea and came down the coast as far as the Bay of San Francisco, left no architectural trace.

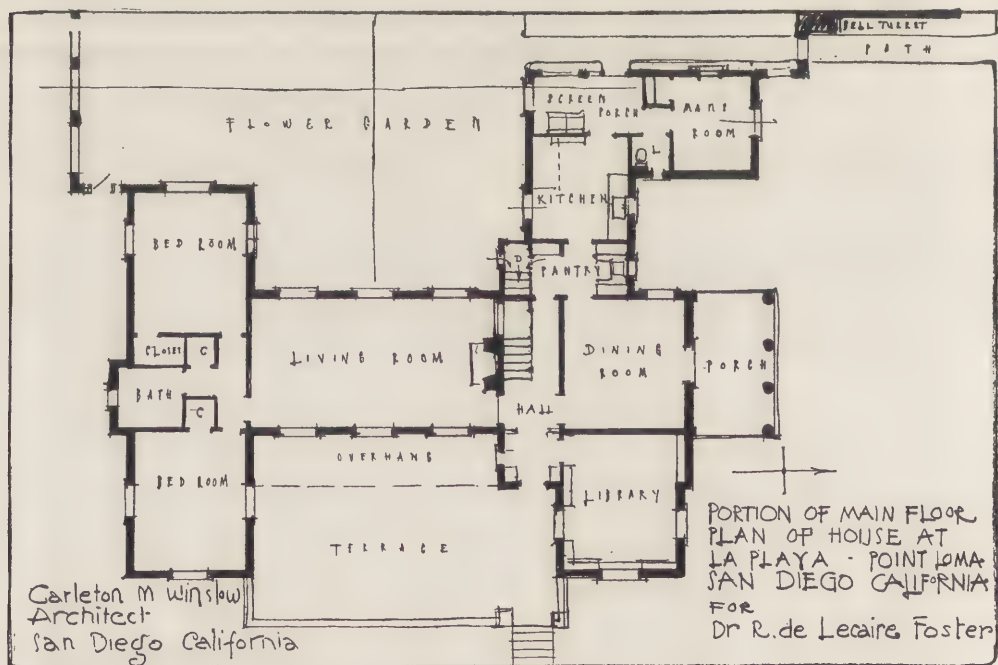
The earliest form of country homes in Northern California, Oregon and Washington consisted of rustic logs and split timber. This style of primitive simplicity continued until railroads and shipping by sea extended national development of forest, field, orchard, mine, fish and petroleum industries. Thereafter, architecture soon became modernized in its material aspect. Oregon and Washington also developed largely, due to colossal gold discoveries in Alaska, to which possessions Portland and Seattle became entry ports. This additional development created an accession of wealth which aroused the world.

With increasing wealth came desire for aesthetic expression in the necessities of modern day architectural development, in which the Pacific Coast States have advanced well beyond initial stages.

Culture, refinement and good taste have rapidly become popular commodities in this land of the setting sun, as is evidenced by accompanying illustrations of a few country homes recently created in Washington, Oregon and California.

Climatic conditions and other creative causes which provide a logical basis for displaying good taste are radically different west of the dividing Sierra Nevadas. A complete metamorphosis from Eastern States exists here. When the north winds of the Central and Eastern States blow cold and bring their blankets of snow, then the Pacific Coast States don their new shades of spring green intermingled with flowers and trees in foliage and blossom.

Enormous quantities of snow and energy are stored on the high Sierras, Shasta, Hood, Rainier and the Olympian Mountains, which cool the inland temperature, freshen hillsides and valleys with crystal water throughout the year and provide light and power. Extended conservation of snow-water in the mountains and continued channeling of the low-



PLAN OF FIRST FLOOR—HOUSE OF DR. R. DE LECAIRE FOSTER, LA PLAYA, POINT LOMA, SAN DIEGO, CAL.

Carleton M. Winslow, Architect.

lands will by degrees irrigate all the soil with mechanical precision during the rainless season, when vineyards, fields and meadows are bathed in continuous summer sunlight.

On the West Coast the approaching north winds are tempered by the South Sea currents of the Pacific, which diffuse a genial warmth over the land.

During the summer months the coast range and inland valleys are cooled by that faithful natural phenomenon, the trade winds, which drift over the range at certain points where it is favorably low and unobstructive. These winds bring great clouds of fog each day, which freshen plant life and glorify the hills with avalanches of snowy white vapor which quickly melts away. The trade winds cool the nocturnes of a solar day and make of sleep a luxury.

Temperature primarily affects architecture in its physical essentials, whereas racial instinct influences architectural styles. Architectural style differs as much according to racial instinct as do nests built by the wren, thrush and swallow.

Diversity of architectural style is attributable to variety and segregation of race and nationality, whereas variety in any one particular style is attributable to taste.

Education and co-ordination tend to unify architectural style. They supersede racial instinct and national traditional tendencies.

Fine quality in architectural style is always the result of good taste. Climate and racial instinct produce architecture which in time becomes lethargic and non-progressive. Its results are more especially based on physical needs and traditional custom.

Modern education frequently produces examples of architecture which are creditable chiefly because they are prototypes of good originals, whereas free and unrestricted exercise of uncultivated knowledge in design too frequently produces kaleidoscopic architecture.

It requires taste, supported by superior intelligence, culture and education to produce superior architecture. All good creative work is itself a superior expression

necessarily founded on superior taste, intelligence, culture and education.

Superior creative work consists of a clear analysis and direct interpretation of beautiful existing facts which govern every-day problems.

Superior taste, intelligence, culture and education respect all traditions which are basically appropriate and serviceable to modern conditions. They serve by injecting accumulated wisdom into new problems, which causes functional parts to co-ordinate properly, as they do in a healthy, beautiful body.

Country homes are comparatively numerous on the Pacific Coast. This is largely attributable to natural charm and general habitability of country.

The proportion of well-designed country homes is large when compared to other classes of Pacific Coast architecture, because country homes are usually designed for cultured people by architects who are similarly endowed.

The people observe that the actual cost of a structure seldom represents its ultimate value and that a structure well-designed is worth relatively much more than a structure of similar cost poorly designed; also, that a poorly designed structure is ultimately worth less than its cost, however low the cost may have been; and that money received for architectural services is largely paid out for salaries and overhead expenses and that the architect's compensation constitutes a residuary.

People have engaged questionable services under erroneous impressions. Sometimes they do not understand that quality of design constitutes the real value of result. Frequently they believe that the client can direct an architect how to design a superior house, or can produce one himself.

The best efforts of qualified architects are expended in designing country homes, because they require the greatest effort to make them successful. The populace appreciates increasingly the importance of qualified professional services. They observe that good results have only come from adequate taste and forethought, and that perfunctory knowledge of design has always produced inferior results.



DETAIL—HOUSE OF C. BONYNGE,
ESQ., SOUTH ORANGE, N. J. DAVIS,
McGRATH & KIESSLING, ARCHITECTS.



COVNTRY HOVSE ARCHITECTVRE IN THE EAST

BY ELECTVS D. LITCHFIELD

THE building of one's country house is a serious matter. The time was when for many people the town house was home and the country place more or less incidental, but nowadays the country house is home, while the city domicile, in practically all large and even in most smaller cities, is merely a temporary abiding place. It follows, therefore, that the building of the country house is a serious matter and not to be lightly entered upon. For the place which is to be the home of one's self and one's family should be many things. More particularly is this so where a family of children are to be brought up in it and are to look back to it as a spot hallowed by cherished recollections. Books upon education are full of the influence of environment upon the development of the child. With how much care then should that environment be created. The influence of environment, too, extends not only to the child, but to the children of a larger growth; and the peace and comfort of a household depends much on the beauty, convenience, light and ventilation of its habitat. The various steps in the creation of a home should be entered into advisedly and with deep consideration.

For most of us the opportunity of building a home comes but once. With how much care, then, should its site be selected and its character determined. There are certain responsibilities which devolve upon those who undertake the building of a house that are not always recognized. In a civilized community no man liveth to himself altogether, even though he would; and, as suggested above, the first, and perhaps the most important of these responsibilities is toward the young children who are to make

it their home and to the men and women these children will become. How often when the light grows dim and the worries of life are for the moment shut out does the heart of man turn for solace and rest to the bright visions of his childhood's home—the house of which he had neither the choosing nor the planning, but which for good or ill left its indelible impressions on his life. And for most of us, those impressions have been for good. For the normal child recollects best what is beautiful and happy, and remembers the mere fact, and but dimly only the detail, of its pain. How much, then, we owe those ancestors of ours who set the old homesteads in those delectable spots high up on the New England hills, with the river winding lazily along through the valley beneath, and the evening sun setting red on the distant mountains; and the apple trees and the cherries, and the bubbling spring way up in the back lots, and the brook where we sailed our whittled-out boats and performed prodigies in engineering with our dams of clay and twigs. Have you no such place to which your memory goes back, and if you have not, do you not still long for such a place, as you did as a boy? The first responsibility, then, of the home-builder is to the child; how you may provide for him the quiet, healthful, beautiful environment that at least for that period of your boyhood, which has become your most cherished memory, your fathers provided for you.

But there is another and less appreciated responsibility on the man who would build a house, and that is the responsibility to the community—though that term hardly expresses it. I mean the responsibility to the country in which

the house is to be built and the particular kind of country. Now, the average man—at least the average American—contends that Magna Charta provides that a man's house is his castle, and that a man has the right to build anything which he may choose on his own land and that it is nobody's business but his own. The owners of New York real estate used to think so until their houses were pocketed between the walls of towering loft or apartment buildings, and their own property rendered useless either for dwelling or other development owing to the lack of necessary side-light. It is curious that home-builders have been so slow to realize that the beauty of a countryside depends greatly upon the character and beauty of its domestic buildings. It is a lamentable fact that, with certain notable exceptions, the larger the undertaking the more certainly has the architecture of the rich man's house been utterly out of keeping with its surroundings. And this has not been because it was in any way impossible—no matter what its size or ambitiousness—to make it appropriate, but because there has been no thought nor effort to make it so. So long ago as the beginning of the Christian era Vitruvius wrote: "If our designs for private houses are to be correct, we must at the outset take note of the countries and climates in which they are built. One style of house seems appropriate to build in Egypt, another in Spain, a different kind in Pontus, one still different in Rome, and so on with lands and countries of other characteristics;" but the average moneyed American has travelled, at least a little, and has become obsessed with the idea of building for himself a French chateau, an English manor, a Swiss chalet, or an Italian palace, forgetting how abhorrent would be even the most beautiful of our truly American houses—and there are many of great beauty—if transplanted to Brittany or the Tyrol. There is a place for everything, and Spanish missions do not belong on Long Island nor French chateaux in our New England landscape. The modern house-builder can do much to preserve and increase the beauty of our country, and on the other

hand a single arrogant architectural interloper may kill the natural beauty of a whole valley.

There is an old town not far from New York up among the hills where architects have vied with each other for a couple of centuries in constructing churches, houses and other buildings appropriate to the place. Its climate and its beauty have attracted men of means, and many have made their summer homes there, building houses that, if not absolutely in the style of the earlier constructions, at least had something of their spirit of quiet simplicity, till, at last, there came an individual, with more money than taste, and purchased a lovely plateau slightly below the level of the main approach to the town, but between it and the beautiful view of valleys and hills to the north and to the west. There he built himself the most enormous of white stucco houses, with innumerable gables covered with the most vivid of red Spanish tiles, and a so-called Italian garden, with stiff walks, but no trees—at least none large enough to screen its alien impertinence—acres in extent; the horror of it stays with one like a red smear across a lovely landscape.

It makes no difference how extended the house is to be, nor how ambitious you care to be, nor how bottomless your purse, stick to the vernacular, and your home will give you real satisfaction, and will add to the loveliness of the country in which you live. Now, sticking to the vernacular, unfortunately, is not so easy as it sounds, for the reason that the past generation of architects were nothing if not original, and knew little of any of the historic styles, and, least of all, of the characteristic style early developed in America; and the present generation and most of the coming generation, while more or less thoroughly trained in classic design and its modifications through the French and Italian Renaissance, know little of the special characteristics of the very distinct and beautiful style produced by our early American architects. How innumerable are the attempts at "modern Colonial" which have the substance but none of the spirit of that simple and graceful style. It seems un-

believable that so many architects could not or would not understand that the use of classic detail in wood does not produce the typical architecture of our American forefathers. The tendency to make the architecture too heavy and to have too much of it is the ever recurring fault. I cannot do better than to quote from a most delightful and intelligent narrative by Louise Hale in the *July Century*, entitled "We Discover New England," which, while not altogether apropos, and which gives our old friend Palladio a puff to which I am not sure he is wholly entitled, is, in the main, so true and delightful that I shall quote it at length:

"It appears to be a great temptation to over-elaborate a modern building in the Georgian style, making one column too wide, one pediment too florid, one wreath too many. It was the Italian Palladio, in the eighteenth century, who first accommodated the old Greek style to dwelling houses. He lived in Venice and built for the Venetian noblemen country houses on terra firma along a foolish little river called the Brenta. We were much amazed when, by chance, we motored from Padua and discovered this district. Save for their dilapidation, these abodes of the mighty bore the air of Long Island.

"The architects of the English Georges adapted this innovation to the English landscape perfectly, and we, before we became a republic, also used it. So in our country it is 'Colonial,' but the wise man who is aware of its Greek extraction should keep his house as plain as possible. There are no white frame churches in England, and they do not miss what they do not know—the beauty of the shadow of green trees upon the glistening surface. Some do not worship within the tabernacle, but surely they can find religion in the outside of these slender spired habitations of the Lord."

It follows that the selection of one's architect is of the greatest importance. There are architects who are brothers-in-law, cousins, and even friends of one's best friend who can build a successful American home. There are even "such

bright young fellows" who have done it, but really these are not the specifications which will absolutely provide the right man. It really is a fact that those architects that you know of and have heard people talking about as the best architects, usually are the men who do the best work; but there is but one certain method of selection—"by their fruits ye shall know them"—and while it is an advantage that your architect should be your friend or your friendly relation who knows and will be in sympathy with your own tastes and ideas, be sure he is a man whose executed work you like and who has done work that you know is good, along the style in which you wish to build. It does not necessarily follow because the work which he has done has all been very large that he cannot build equally good very small, nor does it follow that while his work has been very small, if it has been very good, that he cannot do equally well with a large undertaking. It is quality, not quantity, that counts, just as it is architectural study and not expensive materials which produces the successful building. The people are more and more appreciating this fact and are coming to realize that simple lines with a small amount of ornament, and that ornament very good, is a characteristic of the most successful homes.

A layman, speaking of a house at Huntington recently built, said to me a few days since: "There is a house so simple that no man of means would have been willing to have it not long ago, but which has a simple elegance which is infinitely beyond the over-detailed mansion full of stucco and ornament with which the rich man used to be saddled, and which he afterwards hated, as he did his architect for creating it for him." Within the last ten years there has been a tremendous development in American domestic architecture. There has been a re-birth of the spirit which animated the builders of our Colonial period, the architect of to-day going back for his inspiration to the work of the early Italian masters, but creating typically American homes absolutely suited to their environment.

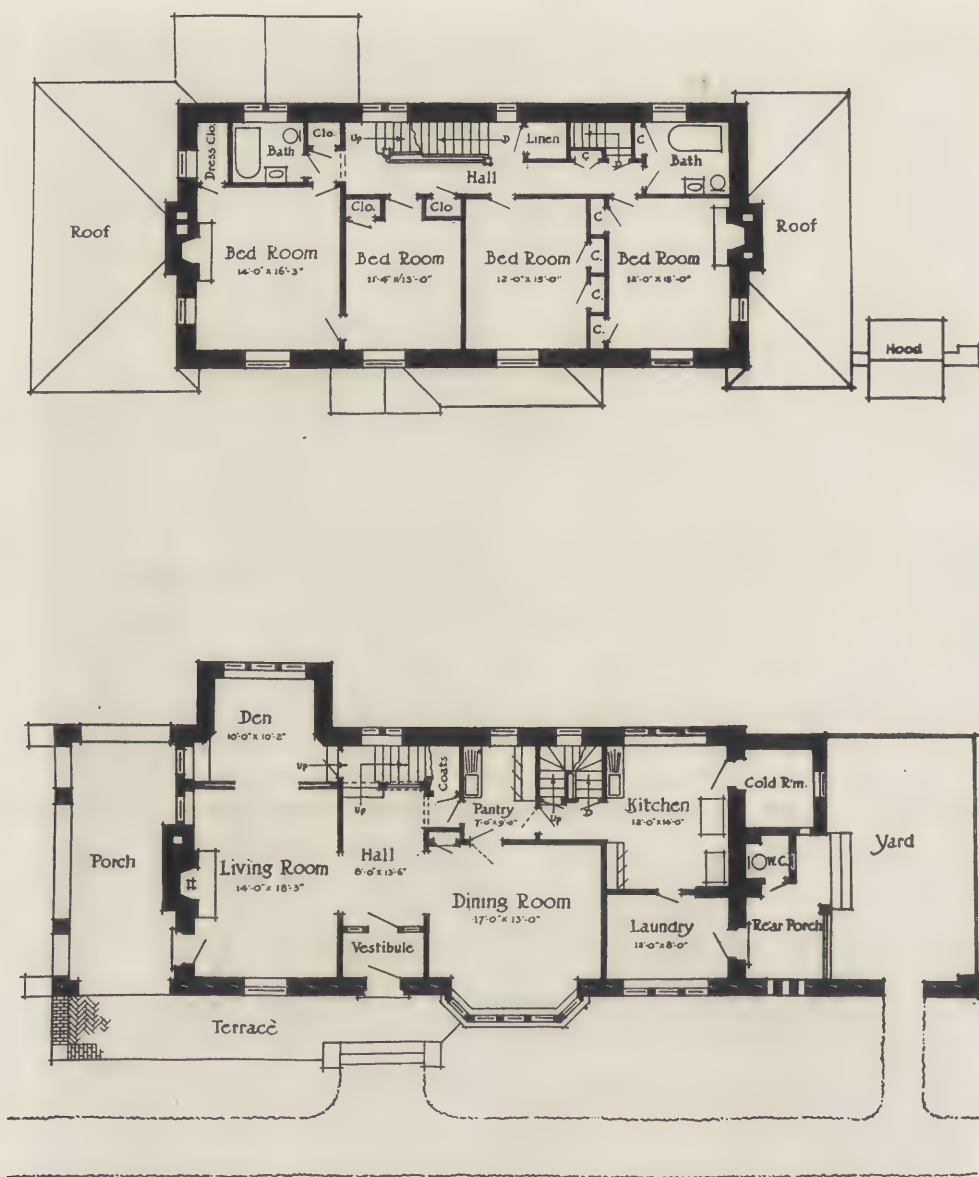
This is not the place for a list of



HOUSE OF RAEBURN CLARKE SMITH, ESQ., WYNNE-
WOOD, PA. D. KNICKERBACKER BOYD, ARCHITECT.



TERRACE—HOUSE OF RAEBURN CLARKE
SMITH, ESQ., WYNNEWOOD, PA. D.
KNICKERBACKER BOYD, ARCHITECT.



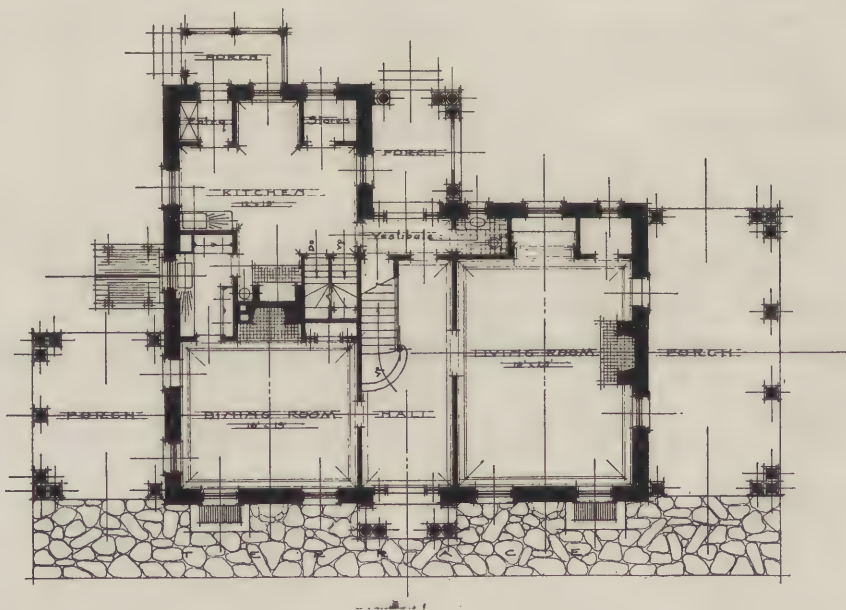
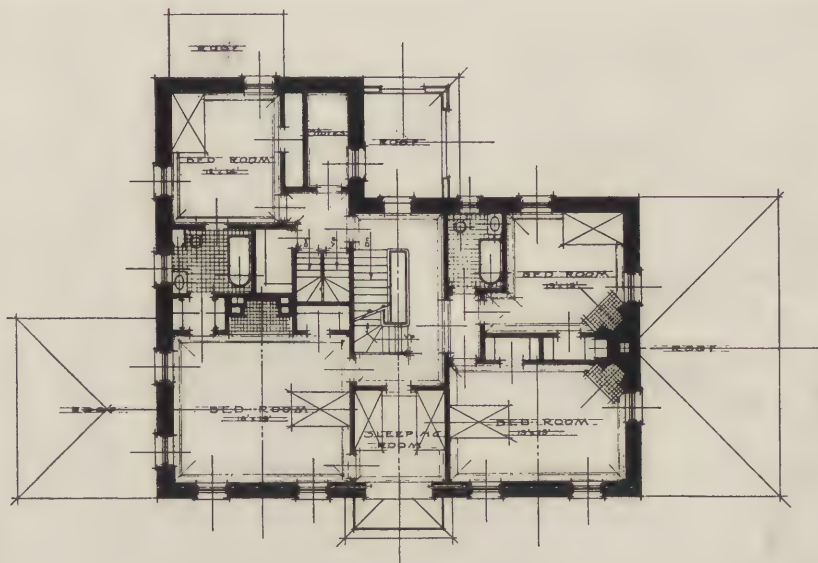
FLOOR PLANS—HOUSE OF RAEburn
CLARKE SMITH, ESQ., WYNNWOOD, PA.
D. KNICKERBACKER BOYD, ARCHITECT.



HOUSE OF C. BONYNGE, ESO., SOUTH ORANGE, N. J.
DAVIS, McGRATH & KIESLING, ARCHITECTS.



HOUSE OF KNOX TAYLOR, ESQ., HIGH BRIDGE,
N. J. WILLIAM EMERSON, ARCHITECT.



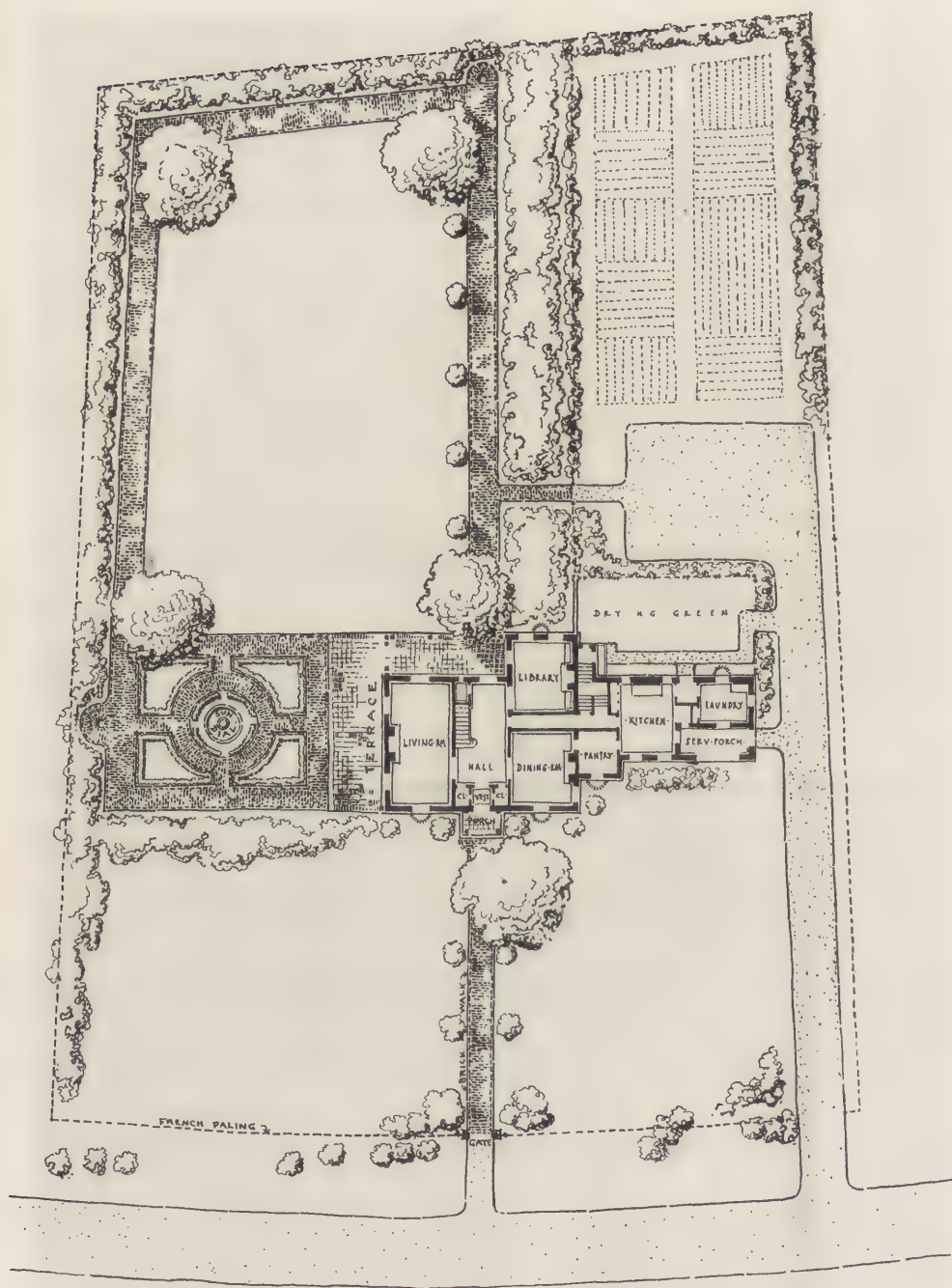
FIRST AND SECOND FLOOR PLANS—HOUSE
OF KNOX TAYLOR, ESQ., HIGH BRIDGE,
N. J. WILLIAM EMERSON, ARCHITECT.



HOUSE OF TRACY DOWS, ESQ., RHINEBECK,
N. Y. ALBRO & LINDBERG, ARCHITECTS.



HOUSE OF A. G. DAY, ESQ., HARTFORD,
CONN. SMITH & BASSETT, ARCHITECTS.



LAYOUT OF HOUSE AND GROUNDS—MISS
E. A. WATSON, WHITE PLAINS, N. Y.
DELANO & ALDRICH, ARCHITECTS.



HOUSE OF MISS E. A. WATSON, WHITE PLAINS,
N. Y. DELANO & ALDRICH, ARCHITECTS.



HOUSE OF MISS E. A. WATSON, WHITE PLAINS, N. Y.
Delano & Aldrich, Architects.



GATEWAY—HOUSE OF MISS E. A. WATSON, WHITE PLAINS, N. Y.
Delano & Aldrich, Architects.



HOUSE OF E. E. BARTLETT, ESQ., AMAGANSETT,
L. I. HEWITT & BOTTOMLEY, ARCHITECTS.



HOUSE OF E. E. BARTLETT, ESQ., AMAGANSETT, L. I.
Hewitt & Bottomley, Architects.



HOUSE OF E. E. BARTLETT, ESQ., AMAGANSETT, L. I.
Hewitt & Bottomley, Architects.



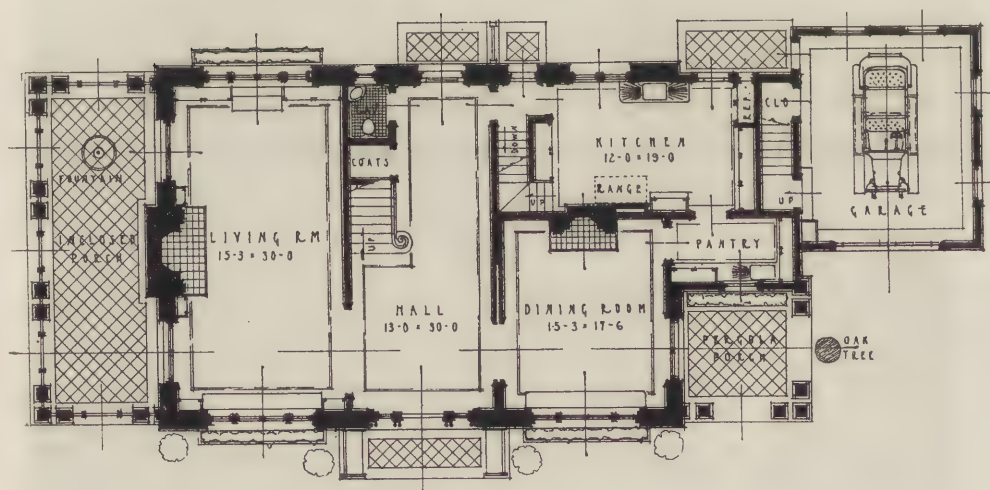
DRAWING ROOM—HOUSE OF E. E.
BARTLETT, ESQ., AMAGANSETT, L. I.
HEWITT & BOTTOMLEY, ARCHITECTS.



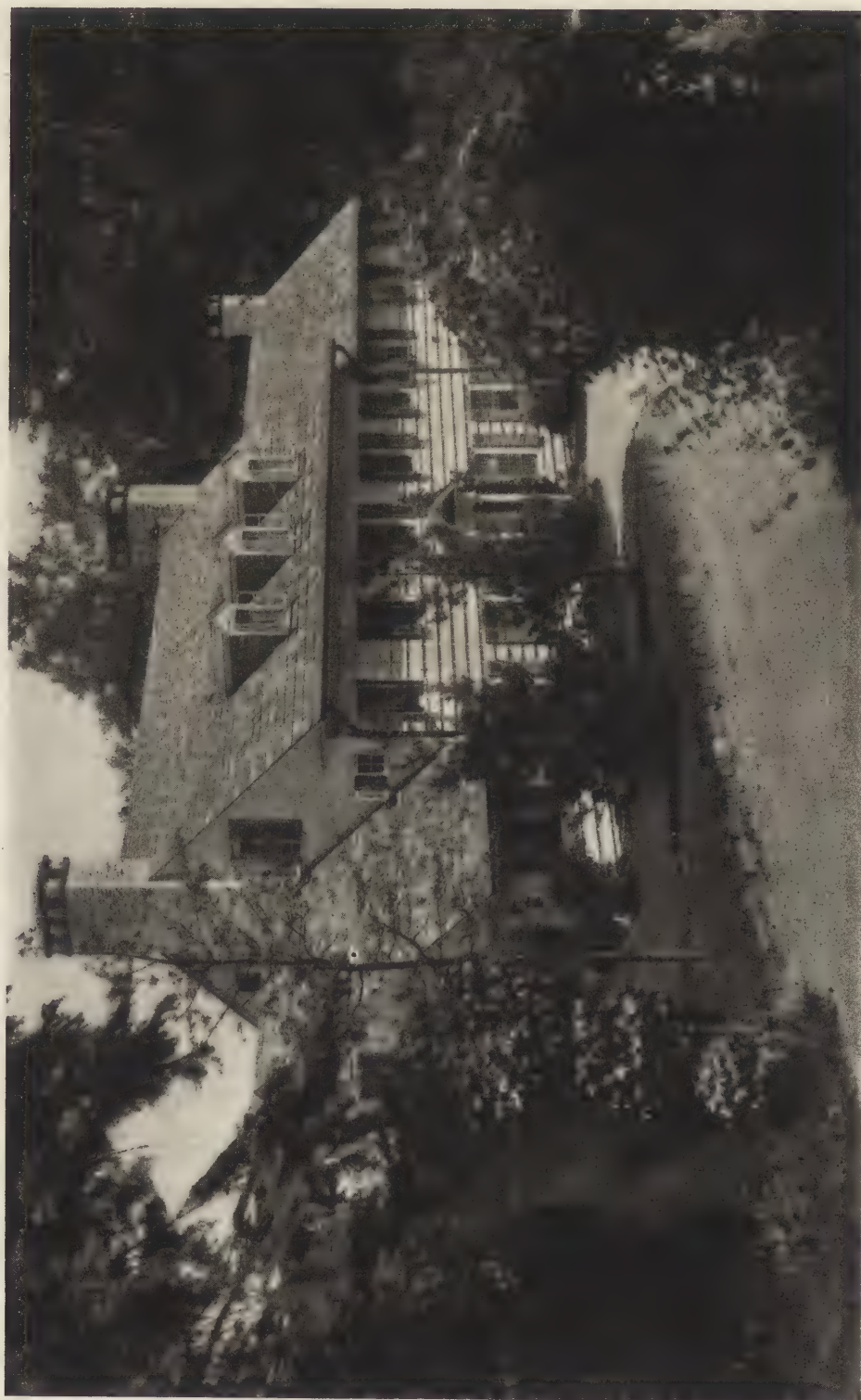
COTTAGE AT MARQUETTE, MICH.
Joy Wheeler Dow, Architect.



COTTAGE AT MARQUETTE, MICH.
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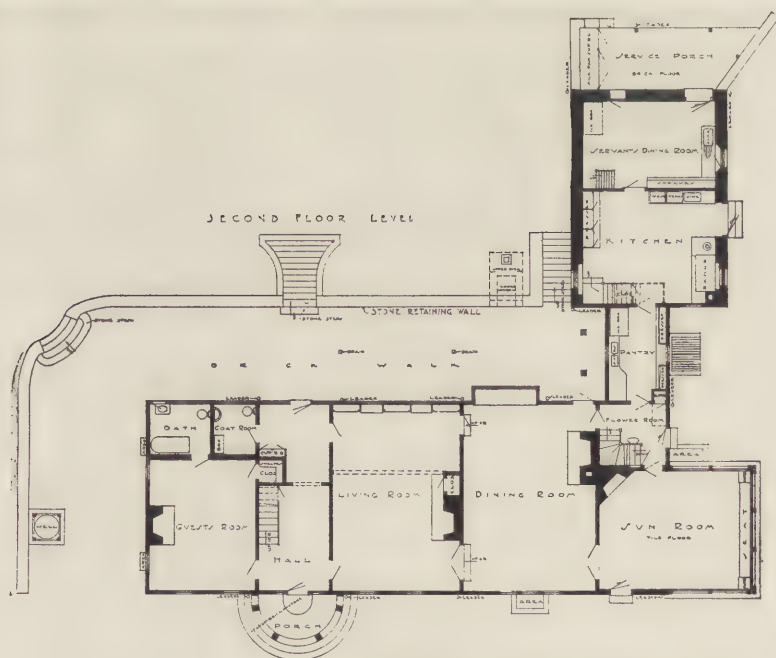
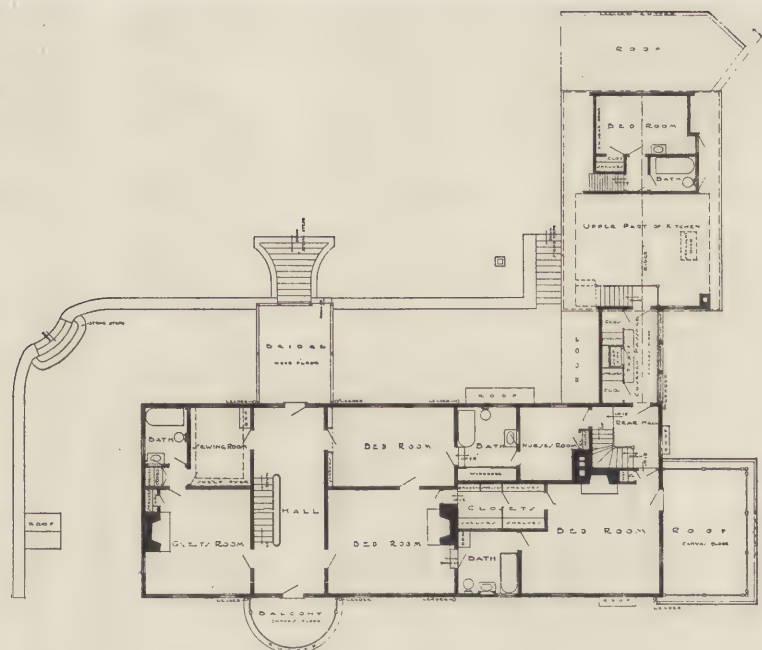
VIEW AND PLAN OF FIRST FLOOR—HOUSE OF DR. GEORGE A. WYETH, RIVERDALE-ON-HUDSON, NEW YORK CITY. DWIGHT JAMES BAUM, ARCHITECT.



HOUSE OF EDWIN B. KATTE, ESQ., IRVINGTON-
ON-HUDSON, N. Y. ALBRO & LINDBERG.
ARCHITECTS. DESIGNED BY H. T. LINDBERG.



HOUSE OF EDWIN B. KATTE, ESQ.,
IRVINGTON - ON - HUDSON, N. Y.
ALBRO & LINDBERG, ARCHITECTS.



FLOOR PLANS—HOUSE OF GEORGE W. BACON, ESQ.,
AT "THATCH MEADOW FARM," ST. JAMES, L. I.
PEABODY, WILSON & BROWN, ARCHITECTS.



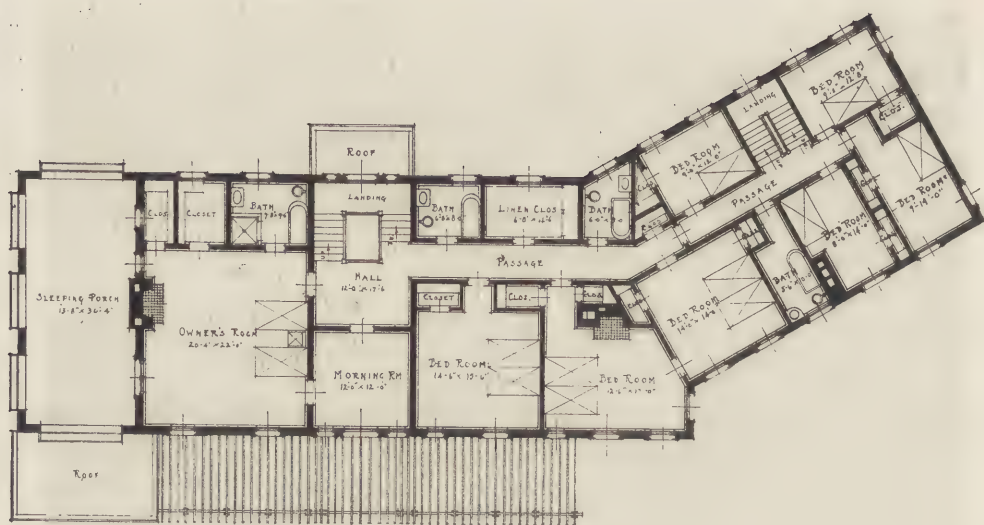
HOUSE OF GEORGE W. BACON, ESQ., ST. JAMES,
L. I. PEABODY, WILSON & BROWN, ARCHITECTS.



ENTRANCE—HOUSE OF GEORGE W. BACON, ESQ., ST.
JAMES, L. I. PEABODY, WILSON & BROWN, ARCHITECTS.



MAIN HALL—HOUSE OF GEORGE W. BACON, ESQ., ST.
JAMES, L. I. PEABODY, WILSON & BROWN, ARCHITECTS.



FIRST AND SECOND FLOOR PLANS—HOUSE
OF ROBERT HOE, JR., ESQ., PORT WASHING-
TON, L. I. WILLIAM EMERSON, ARCHITECT.



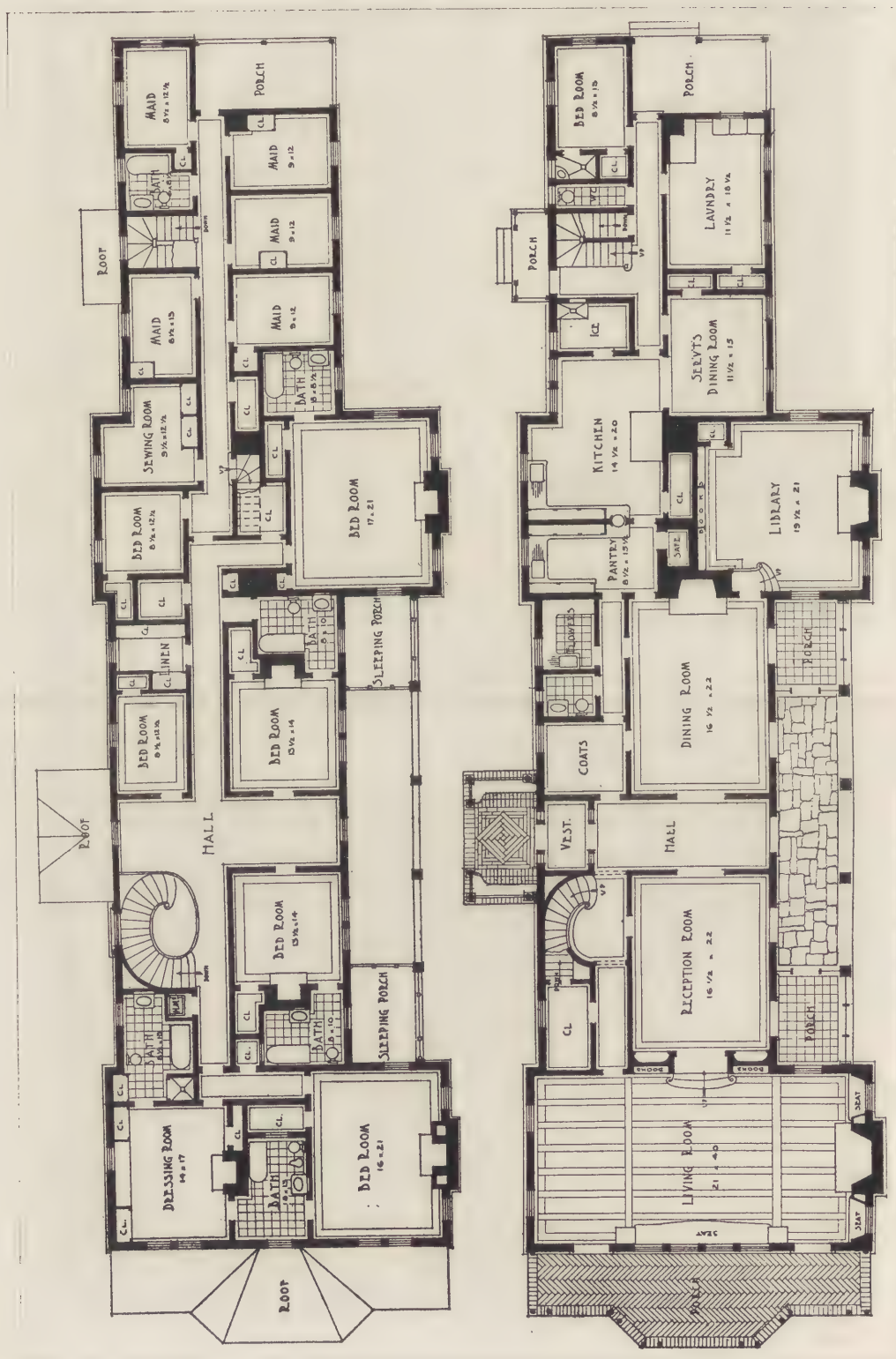
TERRACE—HOUSE OF ROBERT HOE,
JR., ESQ., PORT WASHINGTON, L. I.
WILLIAM EMERSON, ARCHITECT.



ENTRANCE—HOUSE OF J. PEABODY, ESQ., WESTBURY,
L. I. PEABODY, WILSON & BROWN, ARCHITECTS.



HOUSE OF ROBERT HOE, JR., ESQ., PORT WASH-
INGTON, L. I. WILLIAM EMERSON, ARCHITECT.



FIRST AND SECOND FLOOR PLANS—HOUSE
OF J. PEABODY, ESQ., WESTBURY, L. I.



LIVING ROOM END—HOUSE OF J. PEABODY, ESQ., WESTBURY, L. I.
Peabody, Wilson & Brown, Architects.



VIEW FROM REAR—HOUSE OF J. PEABODY, ESQ., WESTBURY, L. I.
Peabody, Wilson & Brown, Architects.



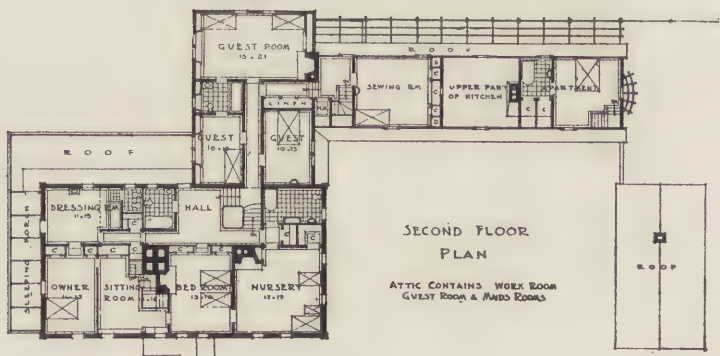
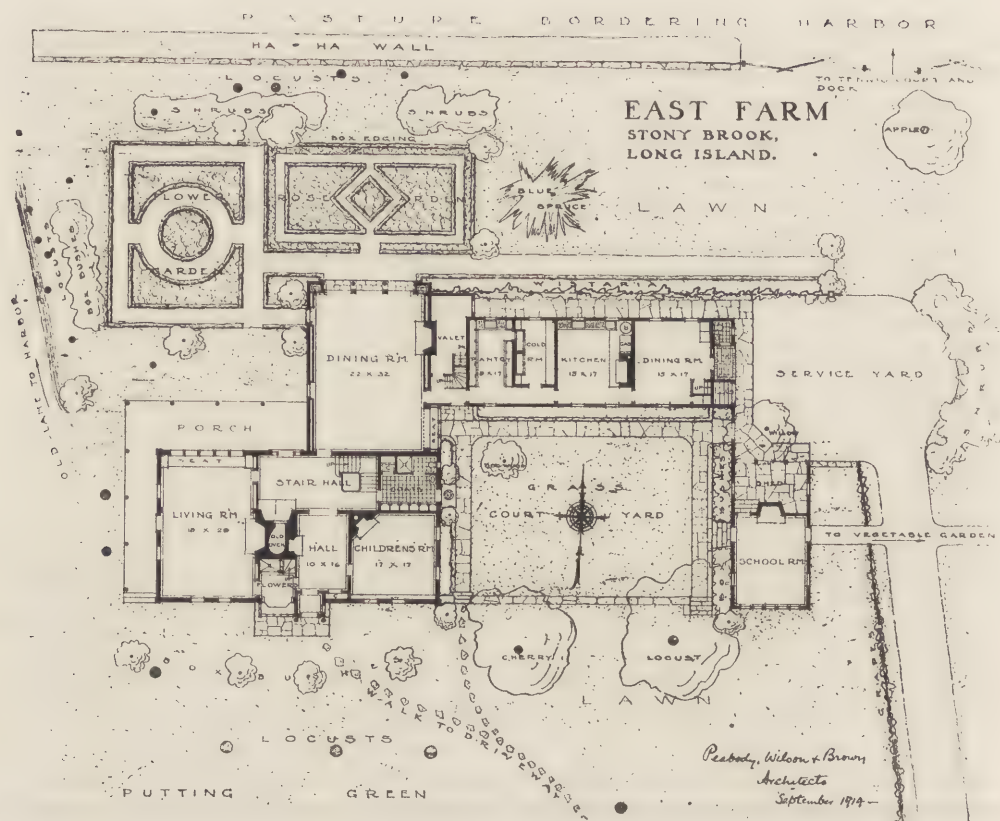
LIVING ROOM—HOUSE OF J. PEABODY, ESQ., WEST-
BURY, L. I. PEABODY, WILSON & BROWN, ARCHITECTS.

architects who have done successful homes. You will know many of them yourself, and you will know of recent houses built, at least almost, as you would have your own. Go to the men who build them, but do not make the error of going to a man whose work you do not like, no matter how much you may like him, and ask him to produce for you a house like that built by some other architect which you like immensely, for a Worth dress copied by a poor dressmaker will always be a poor copy, and with houses this is even more completely true than with gowns.

And now you have bought your site, you have decided on the character of your house, and you have selected your architect. You have chosen him because of his knowledge and ability for producing what you want. You enter now upon the delightful experience of, with him, creating the successful home. If you enter upon this undertaking in the right spirit, it will be one of the most delightful experiences of your life. If your expenditure must be limited, you must let your architect know at the outset, so that there may be no misunderstanding, and you must limit your requirements, and he his ambition, by your purse; but once these limits are established, within them it becomes the delightful task of obtaining the maximum of comfort, of convenience and of beauty. Do not forget that it is the sum total of the little things which produce the successful result; and do not imagine that, when your plans and specifications are complete and contracts are let, it is a crime for your architect to suggest additions or even changes. It would be much simpler for him not to suggest them, but he does suggest them, because he has not ceased to study your problem and to endeavor in every way commensurate with the expenditure to make your domicile in every particular a thorough success. Of course, both you and he will wish to have everything, so far as possible, covered in the contract plans and specifications, for it is a building axiom that extra items cost more than the same items included in the original contract, but, oftentimes, an added

item is worth ten times its cost in added beauty or efficiency. The things one adds are especially products of brain and not mere routine articles which go into the erection of every house; and every house builder must realize that the best decoration is brains and not gold leaf. All houses have many elements in common, but there are a few items which well may be touched upon in this article. All modern American country houses have porches or piazzas. The early Colonial houses, except in the rarest of instances, like the English country house, did not have them. In consequence, the piazza of a house designed in the Colonial spirit has to be studied with great care so that it shall not detract from the "stylish" spirit of the structure. The present-day builder, too, is apt to desire a sleeping porch. Now, this is an invention of the last decade, and where this has to be incorporated in the Colonial design, additional difficulties are encountered in so studying its treatment that it shall be assimilated in the design of the house. Where the house is a small one, the garage, too, introduces a new element, but it, too, can be absorbed into the general group in a way that will be appropriate and in keeping with the spirit of the early style.

Your architect will have his own way of getting his architectural effects, his own special ideas of the use of materials, and will have his own way of developing the suggestions which you make to him. Some would prefer picturesque planning, some the absolutely direct and simple, but whatever his ideas, whatever his methods, remember, that his one ambition is to make the finished result as successful as it may be within the limitations of your purse. Do not think that his interests will stop with the four walls; he is as interested as you are in what you will put on the walls, and he has the expert knowledge of experience, as to how the different materials, patterns of papers, or hangings will look. He is vitally interested in your furnishings and your fixtures, your hangings and your floor coverings, because no matter how successful the skeleton, no matter how graceful the form, the ex-



PLANS—HOUSE OF A. M. BROWN, ESQ.
AT "EAST FARM," STONY BROOK, L. I.
PEABODY, WILSON & BROWN, ARCHITECTS.



"EAST FARM"—HOUSE OF A. M. BROWN, ESQ., STONY
BROOK, L. I. PEABODY, WILSON & BROWN, ARCHITECTS.

pression of its beauty will depend much on its clothes. He is vitally interested in the planting and planning of the surroundings, as his own practice depends upon the public's appreciation of the success of your and his architectural endeavor. It is your house, and you want it the way you want it, but it is part of his life's work, and moreover, he knows

that you will in the end not be satisfied if what you do together is not appropriate and good. Let him have the opportunity of showing you different ways of obtaining your result, till you find a way that he and you together approve, and then in the end there will be a satisfaction in which you both may have full share.



PERGOLA—HOUSE OF J. PEABODY, ESQ.



A PORTFOLIO
OF ETCHINGS

BY

RALPH
FLETCHER
SEYMOVR



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THE
THE



THE ANCIENT CASTLE AND BRIDGE
IN THE OLD PART OF MONTARGIS



THE RIVER GATE OF MORET,
SEEN FROM THE TOWN SIDE.



VIEW OF THE MOUNTAINS
FROM THE BOAT

THE UNIVERSITY OF CHICAGO
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SIDE ENTRANCE TO THE CHURCH
OF ST. GERMAIN D'AUXEROIS.



THE RIVER GATE OF MORET,
SEEN FROM THE WATERSIDE.



FIGURE 1. THE FIRST PART OF THE
JOURNAL OF THE FIRST PARTY.



A LITTLE COURT IN
OLD MONTPARNASSE.



A ROMAN BRIDGE AT GREZ. THE
RUIN AT ITS END DATES FROM
THE TIME OF CHARLEMAGNE.



THE TIME OF CHINESE
IN AT THE END DATES FROM





THE CHURCH OF ST.
GERMAIN D'AUXEROIS.



The Platform of a Progressive Architect.

In a letter received from one of the younger architects who have contributed illustrations to Mr. Wight's paper on "Country House Architecture in the Middle West," in the present issue, the principles that control them in their work are set forth in the following extracts:

"Men whose work shows new but truly organic forms the world over believe that the only tradition worthy of serious and scholarly attention is the tradition of *how* and not the tradition of *what*. They want to work equally well, in the same spirit and by the same methods, as the great masters of the past. The forms that arose out of the work the old masters did were a product and index of their times. Their forms are not indicative of our times, nor can our times even produce or reproduce them. To try to design forms either closely or remotely resembling past forms is neither an architectural performance nor a carrying on of the tradition. To study one's problem in the light of present conditions of thought, materials, craftsmanship and the art of the machine, and to assist natural expressive forms to arise, is the only carrying forward of tradition. That these forms will be new and fresh is a resultant condition—not the object of the work.

"The above brief outline represents not only our ideas, but is the basis for all that characteristic work which has arisen from a scholarly and prophetic vision of things as they are and may be in the Mississippi Valley. These same ideas have been stated many times, but they are still as misunderstood or unknown by Eastern architects, who turn from their libraries and files of architectural plates to look upon this Western work with special eyes that see only some strange thing, as though it were the product of Yucatan or Brobdingnag. By

the same inversion, they refuse to admit that a bridge, an automobile, a railroad train, or a flying machine is in any sense a work of architecture, although by some strange sense they are willing to admit that a Roman sword, an Egyptian chariot, or a Norman coat-of-mail is architectural and a work of art. That is why it seems to us that in any review of this Middle Western organic architecture the few fundamentals which are apparently so difficult for Beaux-Arts men to comprehend should be carefully and clearly stated and restated:

*"No originality;
Honor for past performance;
Tradition in deeds, not words;
Scholarship among men, not among books;
Practical appreciation of present day romance
and achievement;
A delicate working distinction at all times between the past tense and present tense."*

Stonehenge.

It is announced that a tract of 6,400 acres of farm land in Salisbury plain, now the encampment ground of British and Canadian troops in training, and including the famous ruins called Stonehenge, is to be offered at auction during this year. The monumental relic of Stonehenge has for many years engaged the attention of archaeologists without even plausible results in the way of dates or ascriptions. The old myth of a possible Druid origin has long been discarded. The ruins are now variously considered remains of the bronze age or the parts of a monument dating from shortly after the Roman occupation of Britain but erected by native inhabitants.

The stones of which Stonehenge is composed average fourteen feet in height, although some of them are not less than twenty feet tall. They are placed in a large circle, about one hundred feet in diameter, enclosing a smaller circle, which in turn is built



VIEW FROM THE SOUTH—RESIDENCE
OF STUART DUNCAN, ESQ., NEWPORT,
R. I. JOHN RUSSELL POPE, ARCHITECT.

around an elliptical arrangement of exceptionally large stones. The whole is surrounded by a continuous earthen mound.

Stonehenge had long been rated among the earliest efforts at temple building of which any evidence remains, but Fergusson undertook at great length to demonstrate the default of any positive indications to prove its use for purposes of worship. He maintains that these great stones, like others in France, Denmark, Sweden, Germany, India, Tripoli and elsewhere, were truly monuments commemorating events or deeds and often served a memorial or cenotaphic purpose.

Columbia University.

Columbia University has announced important changes in the teaching staff of its School of Architecture. Professor Austin Willard Lord, who has held the directorship since 1912, has decided to relinquish this office to return to his private practice. The trustees have deputed the professional direction of affairs to the faculty of the school as represented in the administrative board appointed by President Butler when the old Faculty of Fine Arts was abolished in 1914. The business directorship of the school has been placed in the hands of the provost of the university who is at the same time chairman of the administrative board.

Three new instructors have also been appointed, two in the field of design and one in that of theory of architecture. The departure of Mr. Maurice Prévot during last year to join the French forces seriously handicapped the department of design. This deficiency has now been remedied to the general advantage of that department by the appointment of Mr. William A. Boring and Mr. Francis A. Nelson. Mr. Boring will be placed in charge of design and under him will serve as critics both Mr. Nelson and Mr. Arthur Ware, who begins his fourth year at Columbia in September.

Mr. Boring is senior partner of the firm of Boring & Tilton. He studied at Columbia and at the École des Beaux-Arts in Paris. His various official activities in connection with the American Institute of Architects, especially in its New York Chapter, and with the Society of Beaux-Arts Architects, of which he was the first president, have made him an important figure in the advancement of architectural education. He is known, furthermore, by structures of splendid calibre, such as the Jacob Tome

Institute at Port Deposit, Maryland, or the Immigrant Station at Ellis Island, as well as many other public buildings.

Mr. Nelson is a graduate of the school at Columbia in the class of 1900 and was a student at Paris from 1901 to 1906. Soon after his return to this country he was appointed a critic in his Alma Mater, which position, together with various advancements, he held until 1912.

The third new appointment is that of Mr. Frederick L. Ackerman, of the firm of Trowbridge & Ackerman, a graduate of Cornell and also a former student of the École des Beaux-Arts. Mr. Ackerman will undertake the instruction in the principles of planning and composition. His lecture at Cornell on the subject of "The Architect's Part in the World's Work" appeared in the February number of *The Architectural Record*.

The Duomo at Florence.

During the years 1509 to 1515 Baccio D'Agnolo was occupied in the construction of an exterior gallery for the dome of the cathedral of Florence. Michelangelo's ridicule interrupted the work and for four hundred years it has remained in its unfinished state. Now that the Florentines had at last determined to complete it and a great international competition was about to be announced for its design, the international conflict has once more caused the project to be postponed. The small existing fragment, surmounting one side of the octagonal drum, clearly shows the manner of the high Renaissance in Giotto's city. Its conception, in which Cronaca and Giuliano da San Gallo are said to have had a hand, could not fall far short of the approval of Brunelleschi himself.

A Correction.

The half-tone of the Duncan residence, published opposite this note, should have appeared on page 293 of the September issue. The cut that occupied its place was a discarded one of an entirely different house. The substitution, an error in the printer's make-up, was overlooked on the page proof, the form proof and the press proof. Hereafter, all illustrations on page proofs will be compared by a special reader directly with the original photographs or drawings.

Beginning in the November Issue of The Architectural Record—



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*Other Articles
in this
Number*

"The Walton Residence—St. Davids, Pa."—D. Knickerbacker Boyd, Architect.

"The Parrish Art Gallery—Southampton, L. I."—Grosvenor Atterbury, Architect.

"Moving Picture Theatres"—A study by John J. Klaber of the mechanical problems that arise in planning theatres of this type.

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TERRACE POOL—ESTATE OF CHARLES
S. WALTON, ESQ., ST. DAVIDS, PA.
D. KNICKERBACKER BOYD, ARCHITECT.

THE ARCHITECTURAL RECORD

VOLUME XXXVIII



NUMBER V

NOVEMBER, 1915



The RESIDENCE of
CHARLES S. WALTON, ESQ.
D. Knickerbacker Boyd, Architect
By Robert Dennis Murray



THE residence herewith illustrated was designed by D. Knickerbacker Boyd for Charles S. Walton, and is situated at St. Davids, a suburb of Philadelphia. The estate is on a hillside and the land is terraced from the house down to the edge of a lake. The building, with its tower, tiled roofs, and quaint chimneys, inspired by the old Mission style of California, and with its Sicilian pergolas and gardens, is admirably suited to the sloping site, the hills and the beautiful stretches of water.

The gate lodge, with its connecting walls and massive stone posts at either side of the drive, forms an impressive entrance to an unusual estate. The native roadside trees have been preserved and the lodge has been set back for repose. Through arches in the walls vistas can be had past the lodge, across the lakes and well kept lawns, to the log cabin; and through the gate posts the house is seen rising beyond the winding drive.

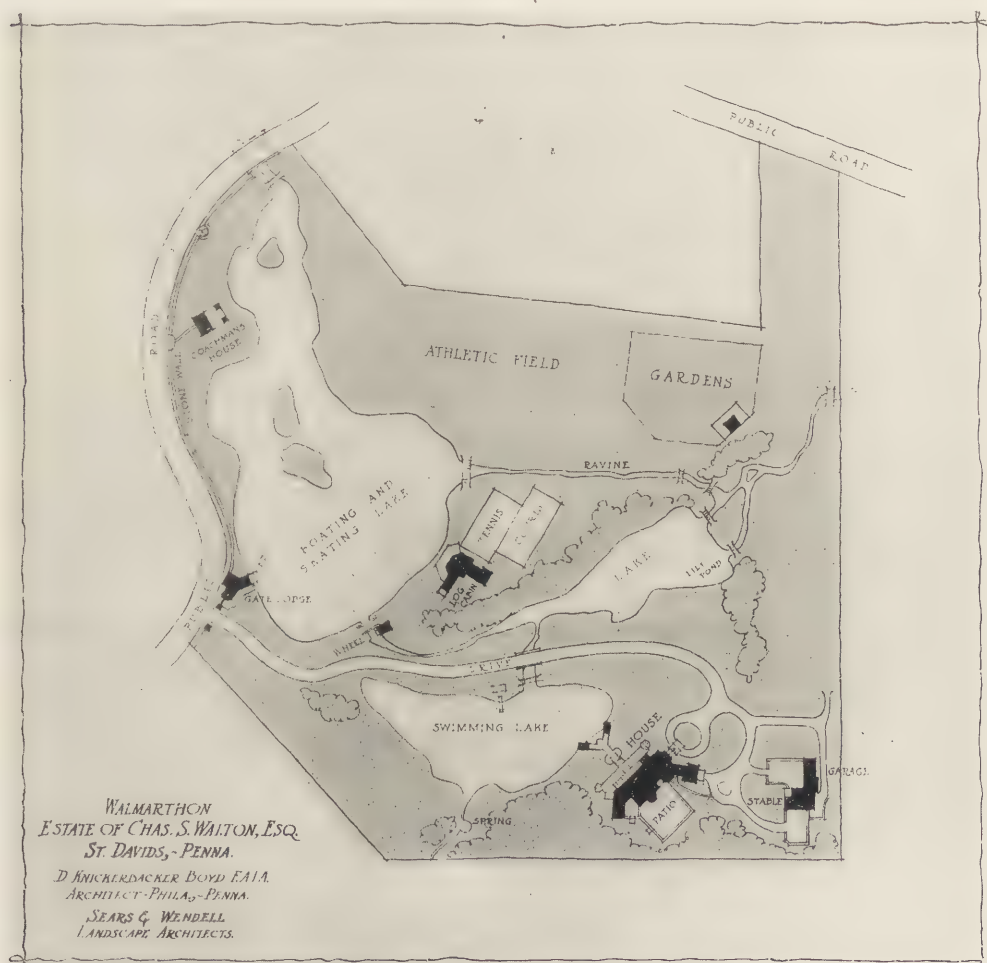
The gate lodge is perhaps more typi-

cal of the Mission style than the house itself because, in its case, the necessity did not exist for large window openings. In addition to the usual functions of a lodge, this one, being on the water's edge, serves also as a boat house.

From the gate lodge the driveway skirts the boating and skating lake, the outlet of which is just alongside the drive. Here there is a waterfall, of considerable height, with masonry abutments, snuggled against which is a little pump house with a quaint oak water wheel, which pumps water into a tank in the stone tower of the garage for the fountains in the patio, in the breakfast room and on the front terrace. The drive then crosses a stone bridge, beside which is a spillway from a second waterfall, the overflow of the second or swimming lake. As the drive winds on by the third lake and rises, the garage comes into view, with its sturdy water tower above the walls of the automobile court, well massed in clear and effective outline against the background of trees.

As the rise to the house is further ascended the vistas open. These have been skillfully handled, the foreground melting into middleground and background in a very pleasing manner. The foreground has the character of an engraving.

planted in connection with its surrounding stone walls. Here the masonry is a background for the foliage where the service wing of the house juts out; on the other side of the court is a remarkable rose garden, through which access



ing, a clear, distinct and rather sharp effect, as in all well designed landscapes. The background, on the other hand, has the character of a mezzotint. Much of the planting is indigenous, and the remainder has every appearance of being so, the semblance of tropical effects having been obtained by the skillful use of hardy growths keeping the tone values well worked out.

Another turn and the drive enters the forecourt, which is exceedingly well

is had to the broad open terrace across the front of the house.

This description applies to the approach by the drive, from which the entrance to the house is on the lower or basement level. Another, and even more entrancing, approach is by means of stepping stones, paved pergolas and cement-dashed broad stairs which take one past pools, vine-covered walls, flowered beds and borders to the upper levels of the terrace stretching across the house, join-

ing the rose garden below the tile and brick porches. Here the visitor on foot has access to the first or living story of the house.

For one to appreciate its full artistic value, it is necessary to see this place. The color and texture of the stone, the varied red of the tile roofs, and the ever-changing verdure and bloom of trees and shrubbery all lend greatly to its charm, as should be the case with a building of this kind.

The exterior of the Walton house logically expresses the interior arrangement, carrying out the French idea of the requirements of an elevation. The predominating motive, or center of interest, emphasizes the plan. The projection forming an alcove from the library on the first floor, with a loggia from two sleeping rooms above, is in close connection with the main hall and stair hall. This portion of the house affords the finest views of the grounds, while vistas of the splendid interiors also open up from here. One may look through the main hall or music room and beyond into the rotunda. Toward the rear of the house, without changing position, one may see across the small hall which leads from the stair hall, past the breakfast room, into the garden adjoining the patio. These long vistas are interesting evidences of good planning.

The general mass of the house is terminated at one end by a tower, which, harmoniously proportioned, is one of the most important single elements of the whole scheme. A building of this type without a tower would be out of character quite as much as a French Gothic cathedral without buttresses and vaults. From a distance the tower is a most effective feature, logically placed and in good scale, carefully studied for effect at any angle. At the opposite end of the house, in a receding wing, are the kitchens and servants' quarters, forming the necessary termination for the residence, which is most unusual for one in the country in that the main entrance is on a lower level than the living floor.

The relation of the roof surfaces to the side walls is well thought out, an evidence of which is the introduction on

the front elevation of a hood reminiscent of an arena awning with square-cut sloping supports. This serves not only as a protection to the two large doors, but brings the roof color down to bisect the stone surface and gives a horizontal dividing line producing an effect of lowness. The color of the tile roof is a rare combination of reds, browns and occasional blacks, forming a pleasing, not too decided, contrast with the stone work. The latter also is interesting in tone and full of character. The carefully placed and proportioned chimneys are in keeping with the Spanish character of the entire design. Wrought iron balconies here and there, depending for effect upon proportion and scale, help to echo the Spanish feeling.

In adapting a Mission design to the climate of the North the architect found it necessary to alter the scale of the windows. One of the characteristics of this style is its small openings, leaving large expanses of wall surface.

Largeness of scale characterized the palaces and churches of the Renaissance in Spain, from which the Missions were inspired. However, in our grayer and darker atmosphere, it is essential that abundant light and air be supplied. It was mainly because of its great windows that Gothic architecture could never be really accepted in the southern countries which so cordially accepted the Renaissance; the large window expanses of the buildings of Northern Europe were unsuited to the bright sunshine of Spain and Italy. The windows of the Walton residence are larger than a strict adherence to style would have admitted. They do not, however, seriously impair the effect of repose so characteristic of the large, well-balanced Mission wall surfaces. The architect who can do without useless details and make his architecture alone count, as is necessary in this style, has accomplished a very difficult task and successfully lived up to the principles of the best kind of design.

The tone value of the place is quite as attractive as is its architectural value. The stonework is a rich gray, varying to almost a yellowish-brown in places. This warm colored stone, full of interest



VIEW FROM DRIVE — RESIDENCE OF
CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



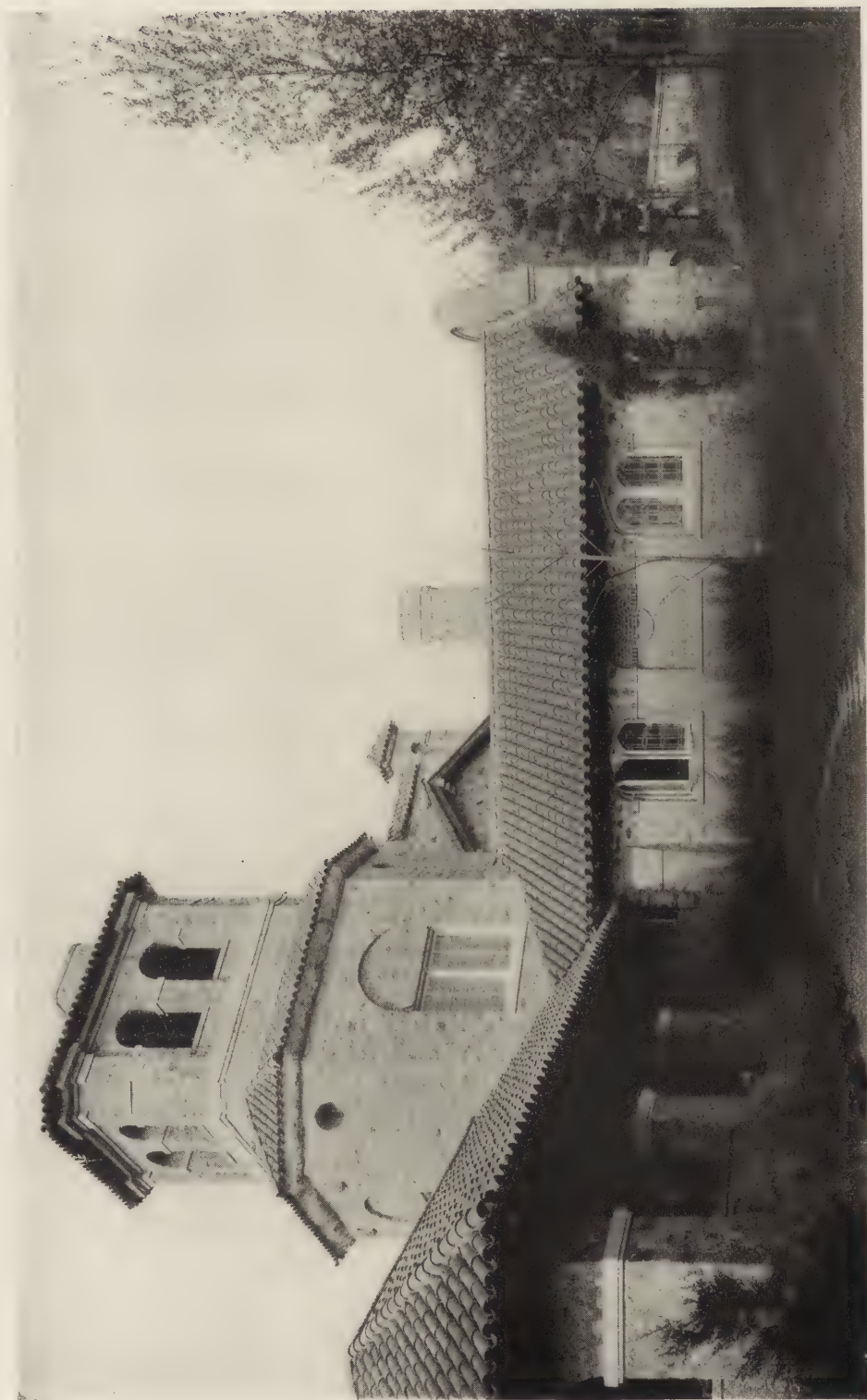
VIEW FROM LAKE—RESIDENCE OF CHARLES
S. WALTON, ESQ., ST. DAVIDS, PA.
D. KNICKERBACKER BOYD, ARCHITECT.



PERGOLAS AND LAKE—ESTATE OF CHARLES
S. WALTON, ESQ., ST. DAVIDS, PA.
D. KNICKERBACKER BOYD, ARCHITECT.



VIEW FROM PERGOLA AT LAKE—RESIDENCE
OF CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



PORCH AND BILLIARD ROOM WING—RESIDENCE
OF CHARLES S. WALTON, ESQ., ST. DAVIDS.
PA. D. KNICKERBACKER BOYD, ARCHITECT.



SERVICE END, LOOKING INTO PORTE-COCHERE—
RESIDENCE OF CHARLES S. WALTON, ESQ., ST.
DAVIDS, PA. D. KNICKERBACKER BOYD, ARCHITECT.



VIEW ACROSS SUNKEN GARDEN—RESIDENCE
OF CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



DINING ROOM BAY AND PORTE-COCHERE—RESIDENCE OF CHARLES S. WALTON, ESQ.,
ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



BILLIARD ROOM WING—RESIDENCE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



LOOKING ACROSS PATIO—RESIDENCE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



LOOKING PAST CONSERVATORY INTO PATIO FROM SUNKEN GARDEN—RESIDENCE OF
CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



VIEW IN PATIO—RESIDENCE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



LOOKING INTO PATIO—RESIDENCE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



DETAIL IN MAIN HALL—RESIDENCE OF
CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



MANTEL IN MAIN HALL.—RESIDENCE OF
CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



SIDE OF BILLIARD ROOM—RESIDENCE OF
CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.

and adding immensely to the character of the walls, has a striking appearance in strong sunlight. Laid up with cement and gravel mortar, resembling adobe, and slushed on, it makes a most attractive exterior treatment. Local stone, thoroughly indigenous, is used and the texture so carefully and yet so easily secured produces the appearance of some rare old building which, under the weathering and wear of centuries, has exposed its structural materials to the sunlight. The bracketed overhangs or eaves, such as were used in the older buildings, cast deep shadows on the warm stonework; especially in the patio are good shadow effects obtained, due to careful designing. After all, in an exterior composition, the proportions and accents depend largely on shadow effects, and too much attention cannot be paid in this direction. The silhouette of the entire mass, with the chimneys, tower and broken roof lines rising from tiers of longer terraces below, is most interesting and picturesque. The effectiveness of a building of this kind depends, of course, largely on color and color combinations; the rich dense foliage about the place, joined to the exquisite tone of the building itself, is very charming. The building, with all its appurtenances, has an air of solidity and beauty when seen from any viewpoint.

Although the plan is unsymmetrical and informal, in accord with the picturesque character so desirous in the type, it yet preserves its unity and is spacious and open to a degree, combining within its parts as a livable feature the patio, which is partly sunk into the ground, and the gardens and terraces which surround the rooms. A plan, first of all, must be logical. The plan of this house is comprehensive, with a good circulation; it suits the needs of the family, and in artistic arrangement the ensemble is well carried out. Broad, muntined casements lead from most of the living rooms to the garden or terrace levels. Pleasing vistas open from various points. One of them is from the sunken garden, through the entire length of the house and out from a wide window in

the dining room across broad acres to the hills beyond.

The patio, which is typically Spanish, is one of the most pleasing and fitting elements in the whole plan. It is accessible from every room on its side of the house, offering a delightful combination of privacy and openness. In a house of this type, the Spanish revision of the Roman atrium and the Italian cortile contains also traces of Moorish influence. The arrangement of the plants and flower beds, which are rich in verdure and brilliant color during the varying seasons, the simple and gracefully arched enclosing walls, the central fountain, the benches and paved walks form an attractive adjunct to the house. The fountain and benches, of rich mosaics, are fine examples of craftsmanship, reminiscent of Moorish and Arabian prototypes. The banked foliage around the patio is a fitting background to such a place.

The breakfast room, which opens off the patio, is, in a sense, the family entrance to the first story of the house, as it is on the level of the driveway at the service end. It has that very desirable quality of fresh and inspiring atmosphere, to which the vista largely contributes. The room itself is latticed to bring the outdoors within, as it were.

It is in the main hall that the simplicity, logical appearance of construction, beauty of proportion and color so expressive of the exterior are best executed. The heavy adobe coated beams, with their varied shades and rough hand-wrought look, the floor of wide teak boards, fastened with wooden pegs, and the jointed stone walls give the unmistakable Mission character. The furniture consists of rare old chests and chairs brought from Spain, which accord with the wall treatment, punctuated on one side by the stone fireplace and on the other by three arches left for future organ installation, but hung meanwhile with tapestry.

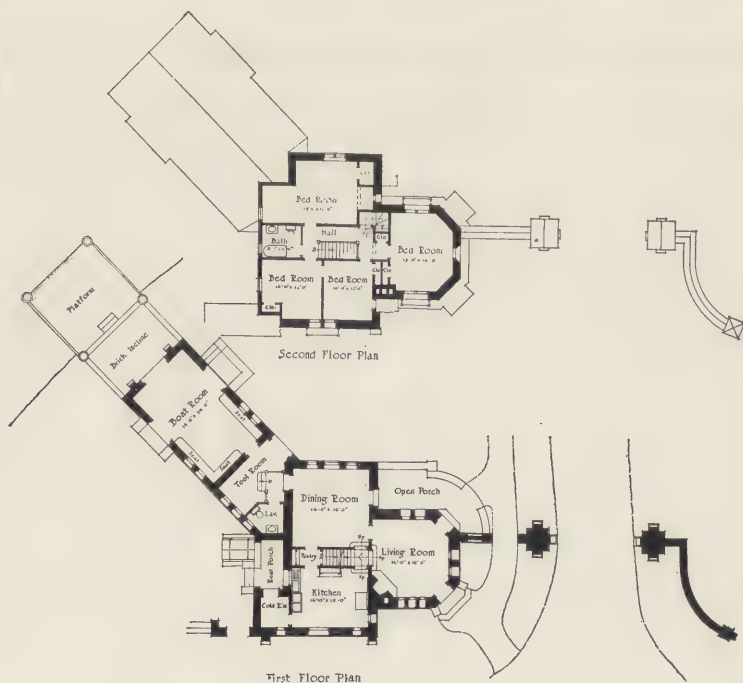
The grand stairway, with its marble work and iron balustrade, has been well executed in the quiet old Spanish style; and is again typical, for Spain



ONE END OF THE DINING ROOM—RESIDENCE
OF CHARLES S. WALTON, ESQ., ST. DAVIDS,
PA. D. KNICKERBACKER BOYD, ARCHITECT.



GATE LODGE—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



FLOOR PLANS OF GATE LODGE—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



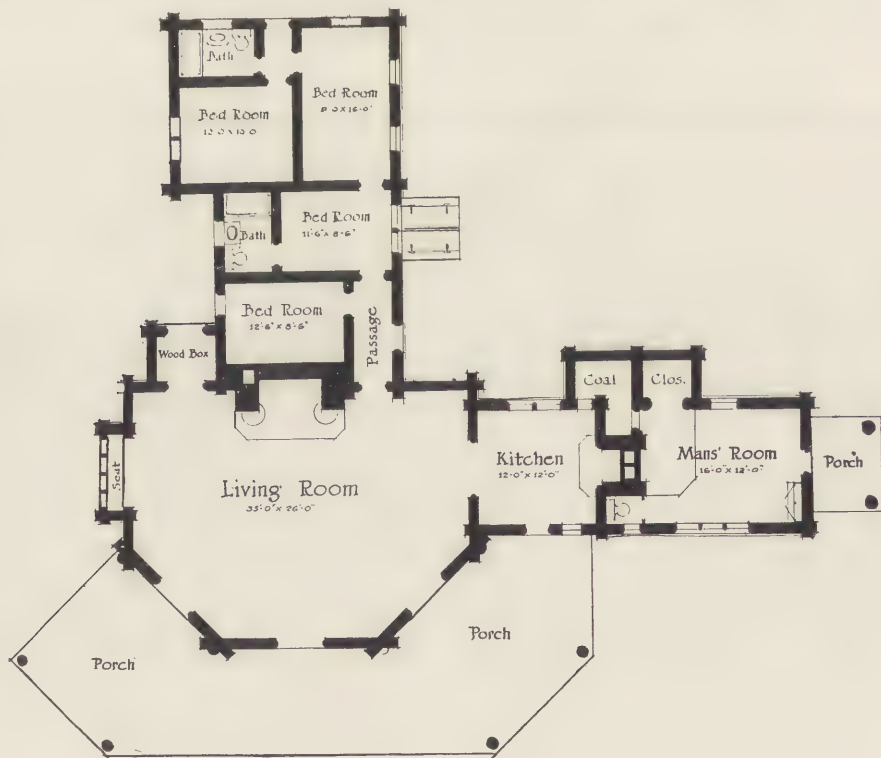
GARAGE—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



WATER WHEEL AND PUMP HOUSE—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



LOG CABIN—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.



FLOOR PLAN OF LOG CABIN—ESTATE OF CHARLES S. WALTON, ESQ., ST. DAVIDS, PA.
D. Knickerbacker Boyd, Architect.

has always been famous for the products of her metal workers. The main stairway leads down to the stair hall below, adjacent to the entrance vestibule. A long stone-arched entrance corridor on this lower level, from the vestibule to the stair hall, has been left in severe and unfinished simplicity.

The Spanish feeling has been strictly carried out in the patio, entrances, halls and stairway. These features were invariably the most important in the old Spanish country palaces and well merited the architect's special attention and adherence to style.

The use of English Gothic in the library, rotunda, den and billiard room, and the treatment of the dining room and breakfast room, are the only innovations on the first floor. As Spanish Renaissance was greatly influenced by the Gothic, the combination of the two styles is not at all unpleasing and blends remarkably well.

The "morning room" or up-stairs living room, over the breakfast room, is generously open, being lighted on four sides by windows. Large, well arranged closets and baths are features of this floor. All the necessary conveniences for the modern home of spacious dimensions, including a sewing room with large closets and drawer space, a cedar room for the storage of furs, a drying room, storage rooms, curtain rooms, etc., are provided, principally in the third story.

The importance of landscape art is often overlooked, although as much consideration should be given to the setting as to the design of a building. During the Renaissance in Italy, each villa generally comprised a dwelling, a casino or amusement house, and many minor buildings, summer houses, arcades, etc., designed in extensive grounds, laid out with terraces, cascades and shaded drives. In the case of the Walton residence, the landscape work, designed by Sears and Wendell, has been used as an adjunct to architecture; it aids in scale, proportion, unity, accent and character. The estate of forty-two acres was practically waste land before the project was started. Some of the principal features of the landscape treat-

ment are a swimming lake, a skating lake, and a small lake with rustic bridges; large well-kept lawns, drives and gardens. The patio forms a natural part of the landscape, as do the terraces, approaches, wooded portions and shaded walks.

A careful arrangement of the landscape shields the log cabin from the house, precluding comparison of the two as to style and finish. The cabin fills the place of the Italian casino or amusement house. It is built of winter cut chestnut-oak logs from Virginia. The roof is of bark of these trees and the chimney stones are of worm-eaten flint from a nearby quarry. Inside are provided bedrooms for guests, and showers for swimmers, skaters and tennis players. Quarters are also provided for the caretaker who superintends the lakes, which are open to the use of the neighbors for swimming and skating. The lakes had been used by the neighbors for years, and Mr. Walton, instead of depriving them of their customary recreation, has provided shower baths and other conveniences. A fire is kept burning in winter in a huge fireplace. Tennis courts are in immediate connection with the log cabin; these, with the large garden opposite the ravine shown on the block plan, together with the broad lawn spaces, wooded areas and the lakes, make up one of the most completely satisfactory country estates to be found within so short a distance of almost any of our large cities.

During the recent advance in the quality of American architecture, the possibilities of French, Italian, or English Renaissance, have been almost exhausted, leaving a new solution for the country house type to be evolved. Combinations of all sorts have been attempted, but there is a feeling that there is a style somewhere that will produce a Renaissance country house with an informal plan. The architects of the West Coast have used the Mission design with charming effect, for there the climate is favorable. Mr. Boyd has brought the Mission style to the East and demonstrated that this early American mode of architecture is adaptable to our rougher climate.



DETAIL OF LOGGIA—PARRISH MUSEUM, SOUTHAMPTON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



The PARRISH MUSEUM
Southampton, Long Island
Grosvenor Atterbury, Architect
By Charles C. May



WE are told that Toledo leads the larger cities of the United States in its proportion of population represented in attendance at its principal art museum. The percentage given is fifty-seven. Boston, the city most of us would have picked as leader, is a moderately good second with forty-eight per cent., while Chicago is well up in the list. New York, although its attendance is tremendous in actual figures, is far down the scale, with its eighteen per cent. who file yearly through the turnstiles at the Metropolitan.

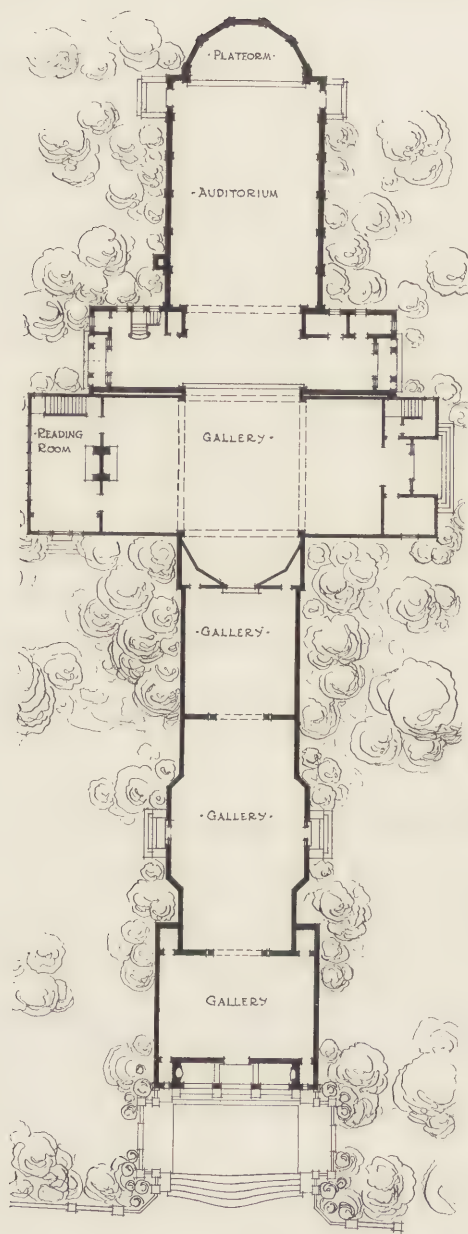
In view of these figures, it is interesting to turn to an art gallery in a village—Southampton still clings rather pridefully to the title “village”—and to consider the Parrish Museum. The attendance record for 1914 is startling—no fewer than six thousand persons, and that during a season only four months long. More remarkable is the circumstance that this represents an attendance considerably in excess of one hundred per cent. of the maximum summer population of Southampton.

These are the facts; the reasons for them are doubtless many and inextricably interwoven. We may safely select a few, however, and say that the public response to Mr. Parrish's invitation is due somewhat to the unusual care with which the collection has been brought together, balanced, and augmented; to the unusually generous and open treatment accorded to the visitor; to the unusual setting in which the collection is placed (of which more in detail later), and to the unusual setting of the building itself within its lovely garden.

The building, like the collection within it, is a growth. The first unit was opened some seventeen years ago, a second followed about six years later, and the new wing, by far the most interesting architecturally, was completed

in 1913. The whole enterprise is a splendid example of a collection privately owned and maintained, but dedicated to the pleasure and benefit of the public; for both galleries and garden are thrown open to villager and stranger as well. Not only so, but often, in the auditorium which occupies the wing furthest from the street, the public are invited to lectures on art subjects, as well as to organ recitals by way of variety.

The building is the work of Grosvenor Atterbury of New York and, we speak of the latest wing, has attracted favorable comment both in actuality and as photographed for various exhibitions. In plan, in exterior treatment and in detail the building is simplicity itself. It relies for its effect not upon picturesqueness of form or features, but upon the grouping of large masses, bold contrasts of shadow, and texture of expansive wall surfaces. This latter quality, care for and study of surface textures, has been increasingly important in Mr. Atterbury's work of the last few years. In this case he has made use of the bulged, overburnt brick known as “lammie” brick, a by-product formerly scorned by architects, rejected by builders and scrapped by manufacturers. For six or eight years Mr. Atterbury has been trying out its possibilities, and has recently made wide use of it in his work at Forest Hills. The bricks are so gnarled and twisted that they must perforce be laid up on edge, as in the Parrish Museum, and usually as a veneer over a shell of terra cotta blocks. It is interesting to note that with the sudden opening of a market, this brick, from being a waste product of no value, has become a staple article, for which the demand has recently created a decided scarcity. The lammie is here used in conjunction with common brick, which has been promoted to act as trimmings; that is to say, as



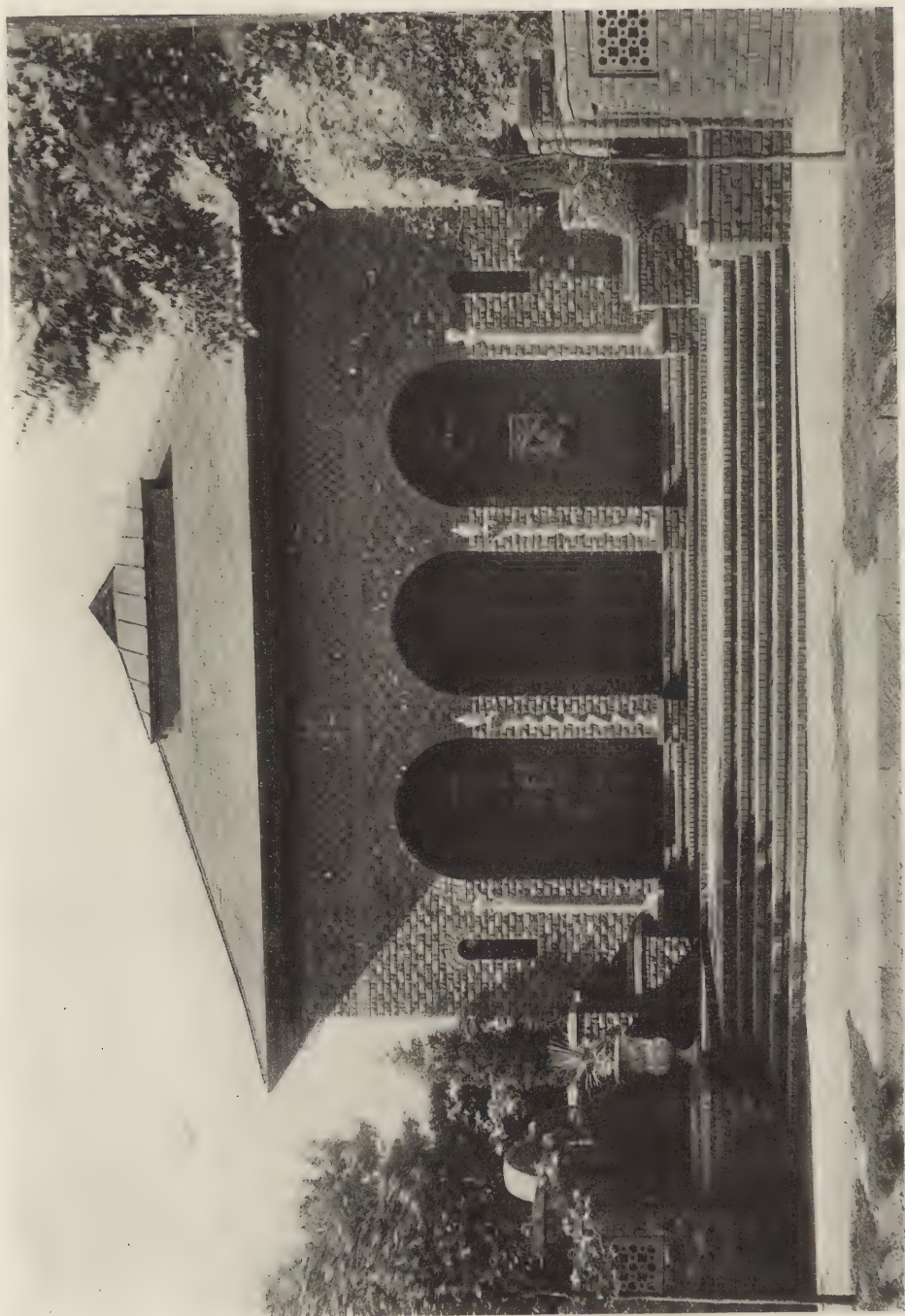
FLOOR PLAN—PARRISH MUSEUM,
SOUTHAMPTON, L. I.
Grosvenor Atterbury, Architect.

belt courses, caps, imposts, archivolt and the like. The two also appear in direct combination in the panels and their frames, where they occur within and over the loggia. In all cases, the bricks are laid up in a black mortar of non-fading composition.

Since the building presents its narrow front toward the street, the ancient Job's Lane, it was obviously necessary to gain breadth by spreading the architectural treatment across the whole width of the property. This has been accomplished by means of an iron fence topping a low wall and divided into panels by piers, both of the same brick that is used in the building. These flanking walls afford pleasant vistas into the garden and lead one's attention quite naturally up to the chief feature of the building, the fore court and loggia.

With the other wall surfaces unbroken to the point of severity, it was logical to concentrate the interest of color and light and shade here, at the main entrance. The focussing of attention begun by the flanking wing walls, stimulated rather than interrupted by the glimpse through the lateral gateways, continued by the color values of the plaques in the side arches and the columns outside, is completed by the exceptionally decorative iron work at the main entrance doors. The whole produces a composition that is both satisfying and climactic. Color plays an important role. The side gates are red, risking the suggestion of a shop coat of paint for the sake of the silhouette against the background of deep green; the panels and plaques in the loggia are full of color reminiscent of the Italian; the lovely warm tones of the columns are emphasized against the brickwork, and the whole is refined and kept from garishness by the gray of the fore court pavement.

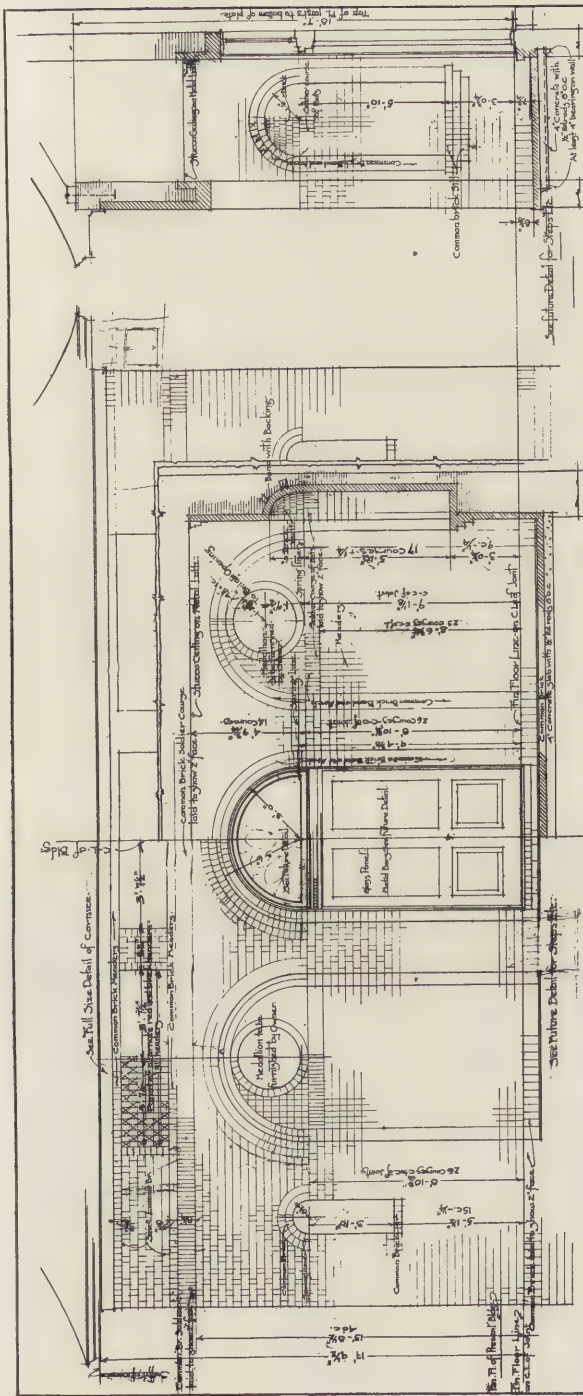
It may perhaps be open to question if the employment of the rectangular plaques (the lower ones in the panels) has not the effect of an over-emphasizing of the decorative spotting, of making a shade too obvious the characterization of the building. In the long run, is it not best to minimize the use of any decorative element that suggests a label? In the Foundling Hospital at Florence, the single motive of the bambino, aside from an occasional accent over the doorways, is used as an inherent part of the façade and forms the perfect suggestive characterization for the building. So one ventures the personal



THE PARRISH MUSEUM, SOUTHAMPTON,
L. I. GROSVENOR ATTERBURY, ARCHITECT.



DETAIL OF FORE COURT AND WING
WALLS—PARRISH MUSEUM, SOUTHAMPTON.
L. I. GROSVENOR ATTERBURY, ARCHITECT.



TRANSVERSE SECTION

LONGITUDINAL SECTION THRO LOGGIA

ELEVATION

PARRISH ART GALLERY
SOUTHAMPTON NEW YORK

FIG. 634 - THE PARRISH GALLERY, NEW YORK
DRAWN BY C.F.M. A.P.V.
CHECKED BY C.F.M. A.P.V.
SCALE 1/8" = 1'-0"
DATE MAY 24, 1913
REVISIONS: 1. 4-11-13, A.P.V.

PLAN

DETAIL OF FRONT ENTRANCE AND LOGGIA

GARDNER ATTERBURY ARCHITECT 10 WEST 44th ST. N. Y.	
LEGEND	
BRICK	BRICK
CONCRETE	CONCRETE
IRON	IRON
GLASS	GLASS
WOOD	WOOD

feeling that in this case the multiplicity of these elements is a loss rather than a gain in the impression created. Taken singly, they are thoroughly charming. When built into their present positions they were monochromes, so that they stand now as examples of the splendid results that can be obtained through the use of color by moderns who have loved and studied the ancients.

It is perhaps worth noting that Mr. Parrish has considered the impression to be created by the gallery during the hours when it is closed to the public. At night the passerby is attracted by a glow of light through the iron and glass doors to the spot where the single point of illumination is directed upon the full-size cast of the *Venus de Milo*, which occupies the focal point of the main axis. Seen through the tracery of the doors and in connection with the shadowy outlines of the surrounding sculpture groups, the effect is so well studied as to be perfectly spontaneous.

To the visitor entering from Job's Lane the gallery presents a vista through three consecutive exhibition rooms of differing shapes, the one nearest the street lying normal to the others. These constitute the new wing, which is again normal to the older portions of the gallery at the rear. One receives at once a grateful sense of freedom from supervision or necessity of viewing the collection in prescribed sequence. The single attendant, to be sure, invites registration, but there ends every suggestion of restraint, and one is free to enjoy the collection at leisure and, if there is still time afterward, to wander through the gardens.

The doors at the sides of the central gallery are glazed, as is that of the main entrance. With these exceptions, the galleries are lighted entirely from overhead. The effect is not, however, the usual one of direct, if not glaring, illumination from concentrated skylight areas; the impression is rather that of a mellow glow over the whole space. It is like a transparent wash of warm tone over a water color, unifying and "pulling together" the composition. The result here is attained by a vaulted glass ceiling in

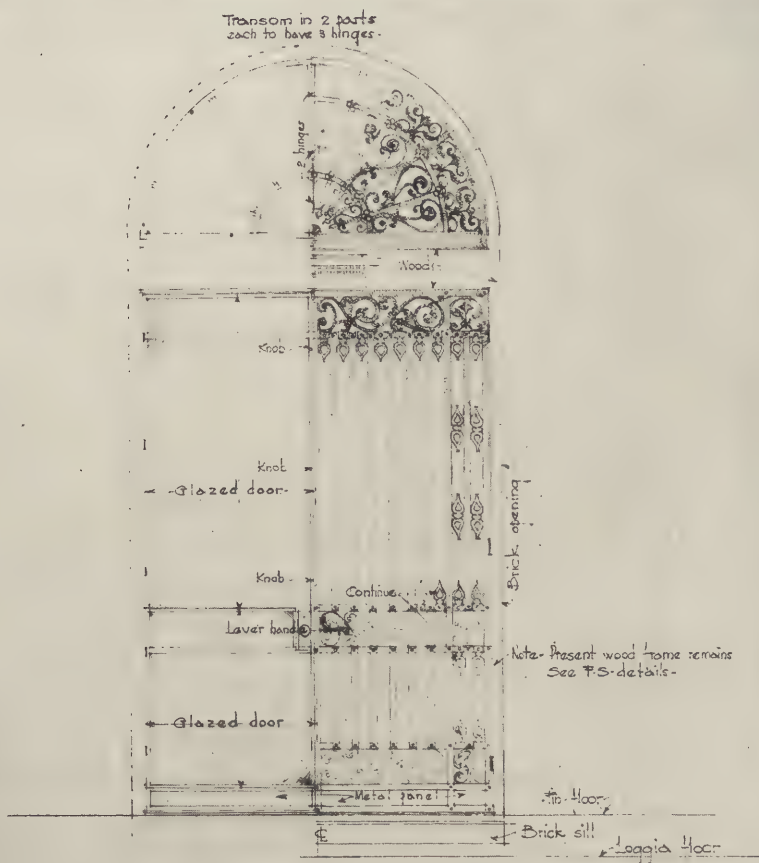
which the glass itself possesses the warmth of tone. It has also sufficient body to diffuse the light so that disturbing shadows and spottiness are quite obviated. The glass is in the form of an elliptical barrel vault, supported by wooden ribs which spring from a simple cornice all around the galleries.

What is true of the natural lighting is equally so of the artificial. All outlets have been placed above the glass and have been arranged with a view to even distribution of units of low intensity, instead of concentration of high-powered clusters. While neither form of lighting, natural or artificial, was referred to an engineer or specialist, and while the omnipresent evil of reflections has not been altogether obviated, these galleries are possessed, by day and by night, of a mellowness of atmosphere that compares very favorably with the lighting of many museums of considerably greater pretensions.

It is an axiom that the architectural surroundings of a collection such as this should never obtrude themselves unduly, should never, in fact, reach the point of competing in interest with the exhibit for which they form merely the setting. And the obvious corollary would forbid the use of any strongly contrasted color schemes or notes of decoration in galleries that are in reality continuations one of another. In the Parrish galleries—of the new wing, that is—the several units are so intimately related, separated, as they are, only by columnar openings which divide without cutting off, that one must feel the wisdom of treating all three galleries alike. The walls are covered with a heavy, deep-toned blue burlap stretched on a board backing, and the color is gratefully cool, after coming in from the brilliant Southampton sunlight. The floors, being covered with a heavy, solid-colored linoleum of a neutral tone, do not obtrude themselves into the general color treatment. The burlap wall surfaces are framed by woodwork which, while painted, still has been given sufficient surface texture to support that of the burlap. The result was, of course, obtained by stippling a glazing coat of a deep shade over the



LOGGIA—PARRISH MUSEUM, SOUTHAMPTON,
L. I. GROSVENOR ATTERBURY, ARCHITECT.



INTERIOR - EXTERIOR -
SCALE 1" = 1'-0"

IRON DOORS & TRANSOM -
MAIN ENTRANCE -
PARRISH GALLERY -
SOUTHAMPTON - N.Y.

TO BE RETURNED TO GROSVENOR ATTERBURY ARCHITECT No. 20 WEST 43d ST. N. Y.	
LEGEND	
	BRICK
	STONE
	CONCRETE
	T. C. BLOCK
	WOOD

FILE No. 624 TYPE I ANDRUS GALLERY DRAWING No. 30	
TITLE Iron doors & Transom	DRAWN BY W. B. H.
CHECKED BY GA	APPROVED BY GA
SCALE 1" = 1'-0"	FIRST ISSUE JULY 17-1910
CONTRACTOR TO VERIFY ALL FIGURES BEFORE BEGINNING WORK	
REVISIONS	

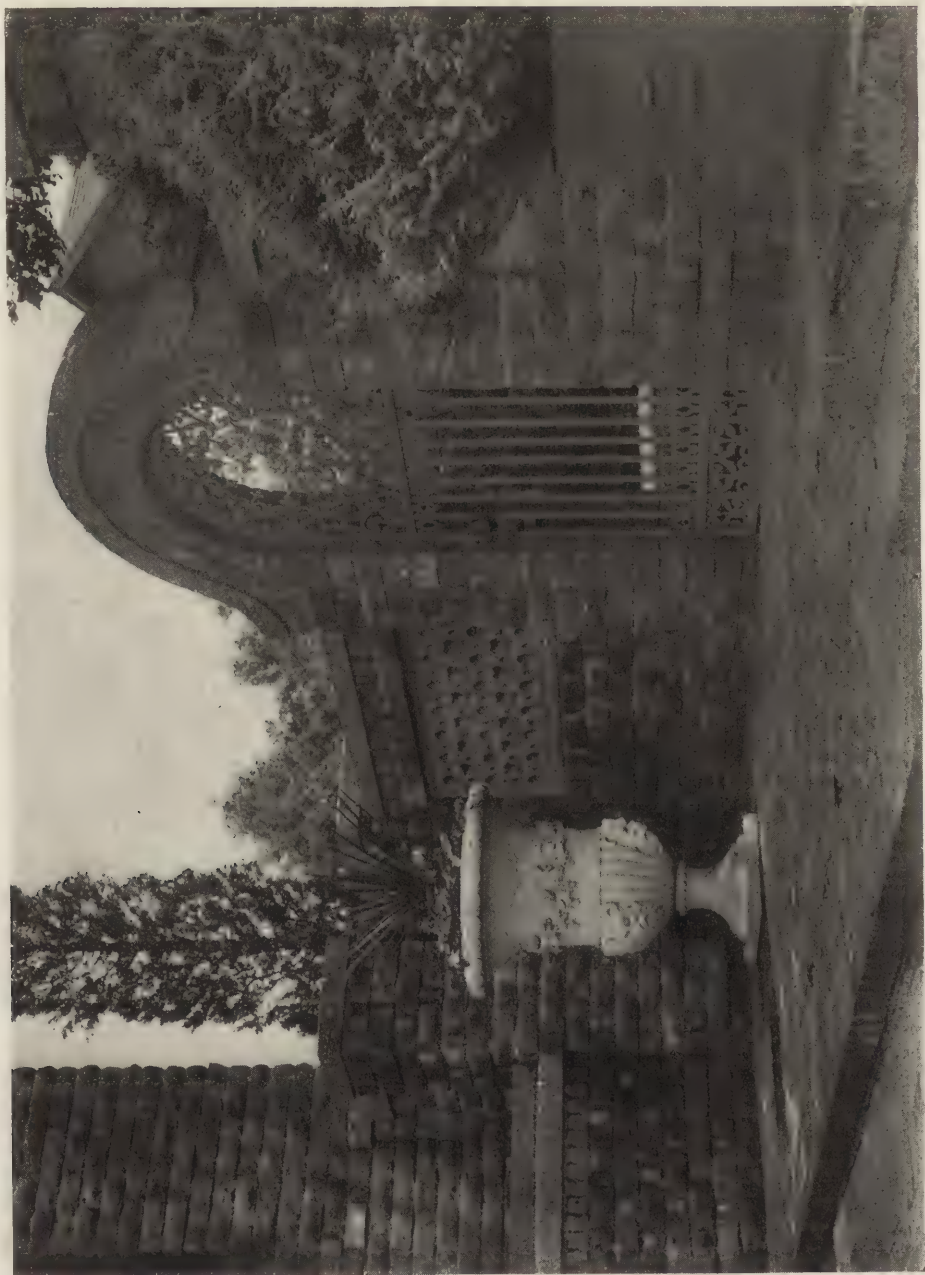
MAIN ENTRANCE DOORS—PARRISH MUSEUM, SOUTH-AMPTON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



MAIN ENTRANCE DOORS—PARRISH MUSEUM, SOUTH-
AMPTON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



VISTA FROM LOGGIA—PARRISH MUSEUM, SOUTH-AMPTON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



PART OF FORE COURT, SHOWING SIDE
GATE-PARRISH MUSEUM, SOUTHAMPTON,
L. I. GROSVENOR ATTERBURY, ARCHITECT.



POOL IN GARDEN—PARRISH MUSEUM, SOUTHAMP-
TON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



FOUNTAIN IN GARDEN—PARRISH MUSEUM, SOUTH-
AMPTON, L. I. GROSVENOR ATTERBURY, ARCHITECT.



INTERIOR, SHOWING VAULTED GLASS CEILING—PARRISH MUSEUM, SOUTHAMPTON,
L. I. GROSVENOR ATTERBURY, ARCHITECT.

warmer, lighter undertone. The combination produces a most agreeable background, not only for the marbles and casts of the sculpture collection and for the conservatively toned paintings and photographs in sepia, but for the more intense, highly colored della Robbia terra cottas as well.

Some of these terra cottas, by the way, have been given an architectural setting by Mr. Parrish in a way that is not without interest. It is worthy of notice more especially since we are wont to bewail the absence of such things as artistry and craftsmanship in our modern trades union age. Southampton has been fortunate in still having some few men, Mr. Parrish among them, who have the feeling that not all pottering is wasted time. At the west end of the older gallery stands a large frame, deep in color and generally reminiscent of the Renaissance, which gives a setting to the semi-circular lunette, with panels containing others of similar subject below. These were assembled and the frame built up in a local carpenter shop from the roughest sort of an indicative sketch, drawn to no scale whatever. There was, to be exact, a makeshift full-size detail scratched on a plank of the carpenter's shop floor, but nothing further. The parts were assembled from material at hand, the mouldings used were all taken from stock, and brought to completion through the patience of their builder, as

there was no supervision whatever. Finally, another artisan was called in, and he has produced with his colors an ancient tonal quality that is distinctly worthy the carpenter craft which preceded it.

A walk through the grounds may be as informal and unrestrained as was the view of the galleries. The surroundings should perhaps be referred to as park rather than garden, since no formal treatment occurs anywhere, and the planting is confined almost exclusively to shade trees and flowering shrubs, massed informally where needed for background, for screening, or for shady retreats, such as the delightful one that marks the end of the pool. There is much to be found here not only to satisfy the eye of the layman, for its form and color, but to interest the horticulturist for its breadth and sometimes rarity of varietal forms.

One turns away from the gallery and realizes with something of a start that all this lies but a step from the Southampton village street—the drug store, the post office and all the rest. And on second thought one must feel that not the least part of the success of the Parrish Museum lies in its creation within the small compass of its own limits, and within a stone's throw of the nondescript commercial interests of the town of an atmosphere of its own that has in it something of aloofness and much of distinction and of quality.



EUREKA THEATRE, PHILADELPHIA.
STEARNS & CASTOR, ARCHITECTS.



Planning the MOVING PICTURE THEATRE

By John J. Klaber



THE growth in popularity of moving-picture entertainments during the past twenty years has been one of the most remarkable phenomena of modern life. The regular theatre has suffered greatly from this new form of amusement, and, in addition, a new public has been formed, indifferent to the older drama, or too poor to patronize it, but whom the moving picture greatly attracts. To satisfy this demand a great number of buildings have been constructed, or, in many cases, altered, the total number of moving picture theatres in the United States being now estimated at over twenty thousand, with a daily attendance of more than five million—one in twenty of the total population of the country.

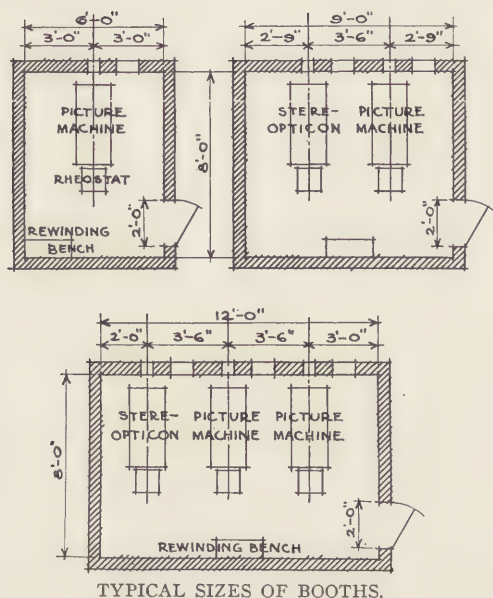
The design of buildings for the exhibition of moving pictures is not a problem of very great difficulty. The auditorium presents few special problems not found in all theatres, and its usually small size and few balconies further simplify the problem. Nevertheless, the design, from an artistic point of view, has usually been of a very low grade, and it is not easy to find examples that rise above mediocrity. The causes of this are obvious enough, the principal ones being the vulgar taste of the great majority of the owners, and their disinclination to pay the commission demanded by a competent architect. The artistic quality of these buildings has been further degraded by certain firms of decorators who specialize in this type of work, and whose designs are characterized by illiterate trashiness. From a mechanical point of view, also, many moving picture theatres are highly defective, due to lack of attention to the technical features necessary to their construction.

The most important of these is the operating room, or booth. Owing to the

inflammability of the celluloid films generally used, for which no satisfactory non-inflammable substitute has yet been found, and to the great heat generated by the electric arc which is universally used for projection, the problem of fire protection becomes one of the greatest importance. It is essential, not only to prevent a fire from spreading to the auditorium, but to avoid a possible panic, which might easily be caused by the sight of smoke or flames issuing from the booth. To this end a special type of construction has been evolved, and its use, now becoming more general, overcomes the dangers produced by earlier conditions.

The booth should be constructed throughout of fireproof material, preferably brick, terra cotta blocks, or reinforced concrete. The last, because of its monolithic character, is perhaps to be preferred, although its weight renders its use impossible in many cases. The walls, floor and ceiling of the booth should all be fireproof, and in no case less than four inches thick, and the roof should be supported so as to resist any internal fire that might occur. It is also essential that the floor be very rigid, as any vibration of the projector is greatly magnified on the screen. Where such a masonry construction is impossible, because of its weight, asbestos boards on a frame of angle irons are often used. This construction is less desirable, but if carefully executed with good materials is far preferable to any method involving the use of wood or other combustible material. If the booth is built on top of an existing wood floor this should be thoroughly protected, asbestos board being generally used for the purpose.

The size of the booth should be sufficient to allow the convenient working of the projectors, as the operator, if cramped, cannot produce good results.



TYPICAL SIZES OF BOOTHS.

The height should be at least seven feet, the depth from front to rear eight feet, and the width six feet for a single machine, and at least three feet more for each additional one. These are minimum sizes, and may be advantageously increased when the available space permits. It is also advantageous to add a fireproof storage closet for films and supplies, and an extra room for rewinding and repairs, and in some localities this is required by law. In any case, the rewinding bench should be constructed entirely of incombustible material.

The operating booth should be well ventilated, and various laws have been made as to the methods to be used. The best method, where it is permitted, is to have inlets near the floor of the room, with a large vent pipe in the ceiling of the booth, leading directly to the outer air. If the inlets can also lead to the outside, this is decidedly preferable to taking air from the auditorium, where it is more or less vitiated, particularly as the operating booth is usually located near the ceiling. The National Board of Censorship recommends 180 square inches of inlet openings for a single machine, and thirty square inches additional for each other, with an exhaust of sixty cubic feet per minute for one machine and thirty for each additional one.

A fan is generally used for the exhaust, but if the vent pipe is sufficiently large—about two square feet of area—it may be dispensed with, unless required by law. The omission of the fan is advantageous, as if it is out of order, as may easily be the case, its blades present a considerable obstruction to the free circulation of air.

The vent pipe should be provided with a damper, opening automatically in case of fire, and all other openings in the booth should be provided with self-closing fire-doors or shutters, so that if a fire occurs the exhaust of the vent pipe will prevent any smoke from passing into the hall. There should be but one door to the booth, and this should be a self-closing door, two feet by six. It may be of either iron or tin-clad wood, constructed according to the specifications of the National Board of Fire Underwriters. The other openings include the lens holes and lookouts, one for each machine.

The lens holes should preferably be cut after the machines are in place, as the necessary size and height varies with different machines. They should be large enough to clear the rays of light issuing from the lens, and a conical form is usually best for this reason. The size will depend on the distance of the lens from the wall, a three-inch round hole being sometimes sufficient. The stereopticon, having two lenses, requires a long hole instead of a round one. If there is a spotlight, it requires a fourteen or sixteen-inch hole, but the effect of a spotlight is often produced by the use of special slides in the stereopticon.

The lookouts should be sufficiently large to allow the operator to work either sitting or standing, as his hours are long, and an occasional change of pose adds greatly to his comfort, and consequently to the efficiency of his work. In order that he may be able to see the entire screen at all times, the opening should be twelve inches wide and twenty-four high, and should be provided with a vertically sliding shutter, with an opening the full width and about eight inches high. In many cases, however, smaller openings than this are required by law.

The lookout for the stereopticon, and for the spotlight, if one is used, may be smaller, a ten-inch hole being ample, in view of their less continuous use.

The fire shutters for all these openings, as well as for the air inlets, should be of iron, not less than one-sixteenth inch thick, or of hard asbestos board, not less than three-eighths inch, the latter being strengthened with flat iron bars. They should run vertically, in carefully made metal grooves, and should be held up by cords, controlled by a master cord soaked in inflammable wax, and passing close to all the machines, the rewinder, and the film storage box, so that all the shutters close automatically in case of a fire at any point. The same master cord should automatically open the outlet damper.

The booth should be well lighted, with one lamp over each machine, and wall plugs for the attachment of additional lamps on flexible cords, allowing their use at any point. The interior should be painted a dark color, preferably a dead black or dark green. The exterior will, of course, conform to the general treatment of the hall. Provision should be made for the necessary switchboards, although the main house switchboard is better placed outside the booth. The rheostat or other resistance may be variously placed, preferably outside the booth or on a high shelf, where the heat generated will cause less inconvenience to the operator. It is also advisable to run a stovepipe directly to the vent flue from the rheostats, as well as from the projectors, to avoid heating the booth more than necessary. Everything, in fact, should be done for the comfort of the operator, as on him depends the success of the theatre.

The screen upon which the pictures are projected may be constructed in several different manners. Where it can be permanently fixed against a wall a plaster surface is one of the best types. It must, however, be very carefully made, as all irregularities are strongly shown up by the powerful lighting. Such a screen is usually finished with a coat of dull enamel or whiting, slightly tinted with blue, to increase its brilliancy. A surface painted with white lead paint is

also sometimes used. When the screen must be movable, white muslin is the most common material. It is, however, less brilliant than plaster, and requires frequent replacement because of its tendency to become dirty. It has also the disadvantage of being unsteady, due to air currents that cannot be eliminated. Dull finished aluminum has also been used, and gives a very brilliant image. The most brilliant, however, is a frosted plate glass mirror. The use of this type is limited by its weight and the impossibility of producing it in very large sizes, thirteen and one-half by eighteen feet being the largest size generally manufactured. In a few cases a transparent screen is necessary, and here muslin or frosted glass is generally used.

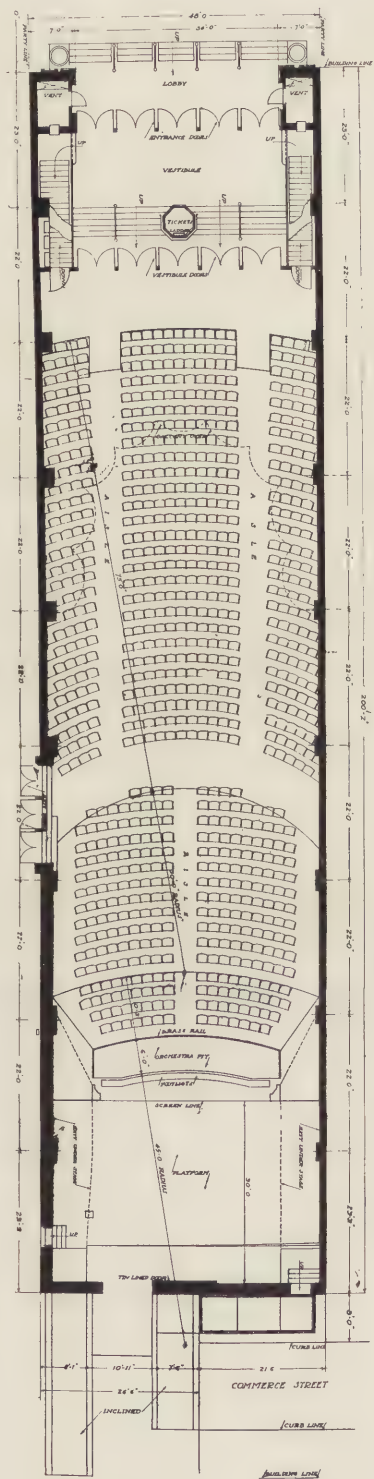
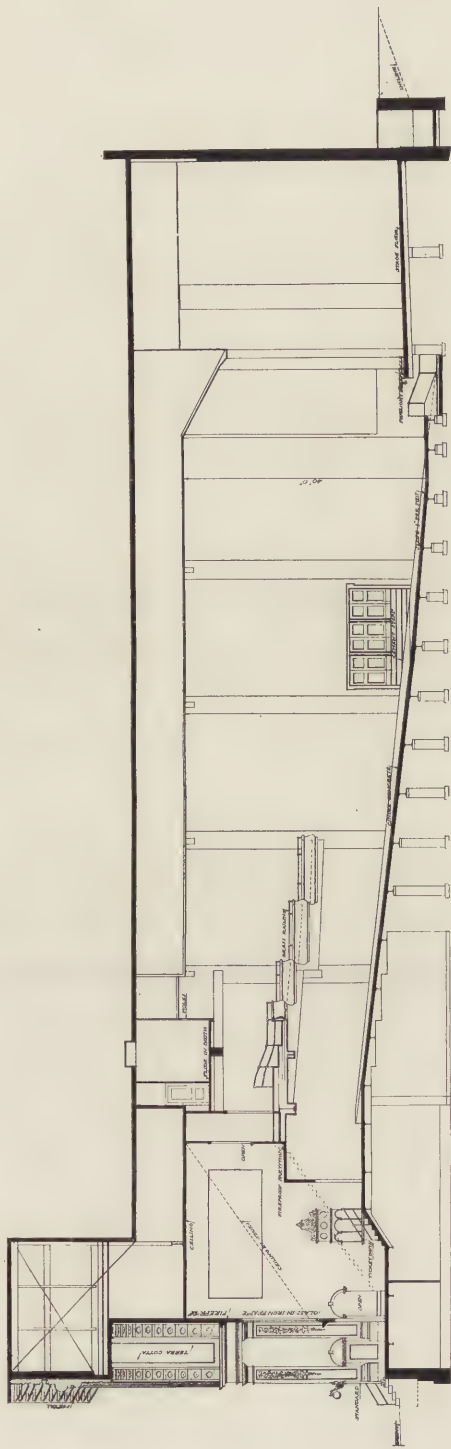
In order to provide a frame for the picture, a black border is painted on the screen, of such a size as to lap over the edges of the projected image about three or four inches. This increases, by contrast, the brilliancy of the picture, and lessens the effects of vibration. A dull finished paint must, of course, be used, to prevent reflections. The space around the screen should be simply treated, and dark in color. Black velvet draperies are often used, and produce an excellent effect.

The size of the screen need not be very great. An image nine feet by twelve is visible up to one hundred feet, and gives figures of approximately natural size. For longer houses a larger screen is necessary. It is also important that the screen should not be too high from the floor, in order that the figures may appear to walk on the ground and not in the air.

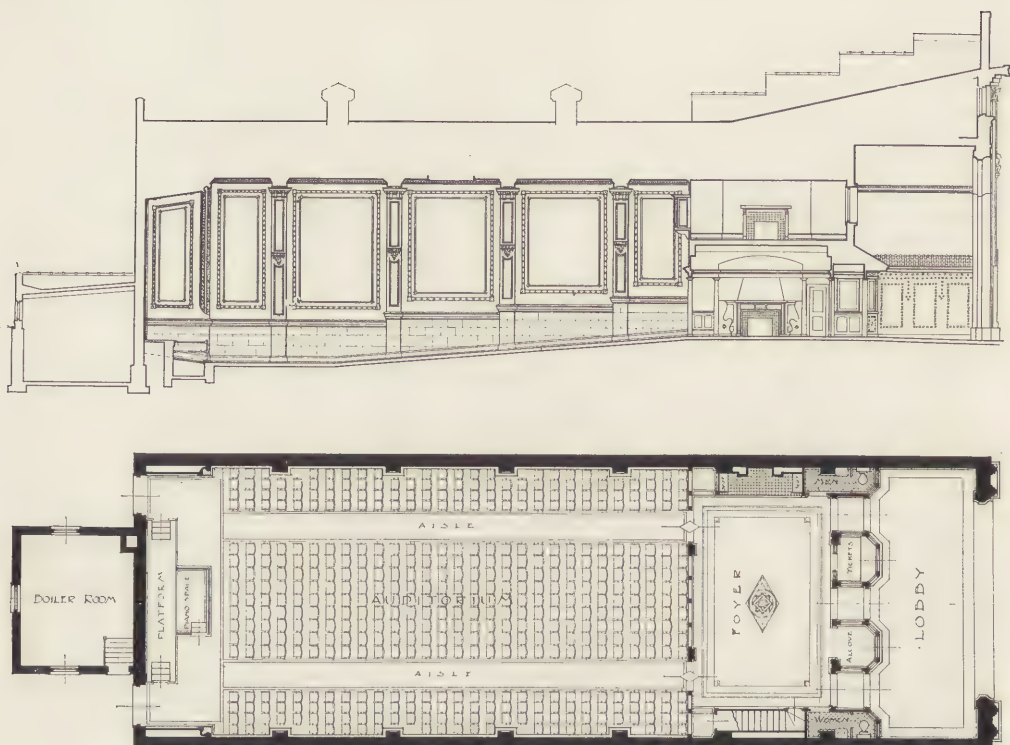
The position of the projector, relatively to the screen, is a matter of some difficulty. The ideal would be to have the projector directly opposite the center of the screen, but this is seldom possible. It should, however, be approximated as nearly as conditions permit, as any divergence produces distortion of the image. The operating room must nearly always be placed rather high, and it should be as far back as possible, as the angle of the rays is thus reduced to the minimum. It is generally considered that



VICTORIA THEATRE, PHILADELPHIA.
STEARNS & CASTOR, ARCHITECTS.



LONGITUDINAL SECTION AND PLAN OF
FIRST FLOOR—VICTORIA THEATRE, PHILA-
DELPHIA. STEARNS & CASTOR, ARCHITECTS.



LONGITUDINAL SECTION AND GROUND FLOOR PLAN—EUREKA THEATRE, PHILADELPHIA.
Sterns & Castor, Architects.

the distance from the projector to the screen should not be less than seventy-five feet. Care must also be taken that the projector is high enough so that the rays are not interrupted by the heads of any part of the audience.

The planning of the hall demands a somewhat different arrangement than that of the regular theatre. Seats at the sides of the house, which are tolerable for ordinary productions, are almost worthless for moving pictures, because of the distorted view of the screen. The best seats, also, are not near the screen, but at a distance of from seventy to one hundred feet, where the vibration of the pictures is less apparent. If boxes are used, they should therefore be placed at the rear of the house, and stage boxes should be eliminated, unless the moving pictures are a very minor part of the entertainment. Where there is a stage, the screen should, if possible, be placed at the back, as this increases the distance to the audience and improves the view.

The slope of the floor must be carefully worked out, as in an ordinary theatre. In fixing the height of the balcony, when one is used, care must be taken that it is high enough not to interfere with the view of the top of the screen from the rear of the main floor. This may require a greater height than would be necessary for other types of performances. Too steep a floor should, however, be avoided, the limit being usually fixed by law. Slopes are preferable to steps, if not too steep, and an effort should be made to have the rear of the main floor as near the street level as possible, for ease of exit.

In laying out the seats the temptation is always to crowd them too much, but this is not advantageous, as it may cause the theatre to become unpopular, and it also increases the fire risk. The rows of seats should not be less than thirty-two inches from back to back, and a width of less than twenty inches is not advised. The seats need not be uphol-



THE PLAYHOUSE, RIDGEWOOD, NEW JERSEY.
Davis, McGrath & Kiessling, Architects.

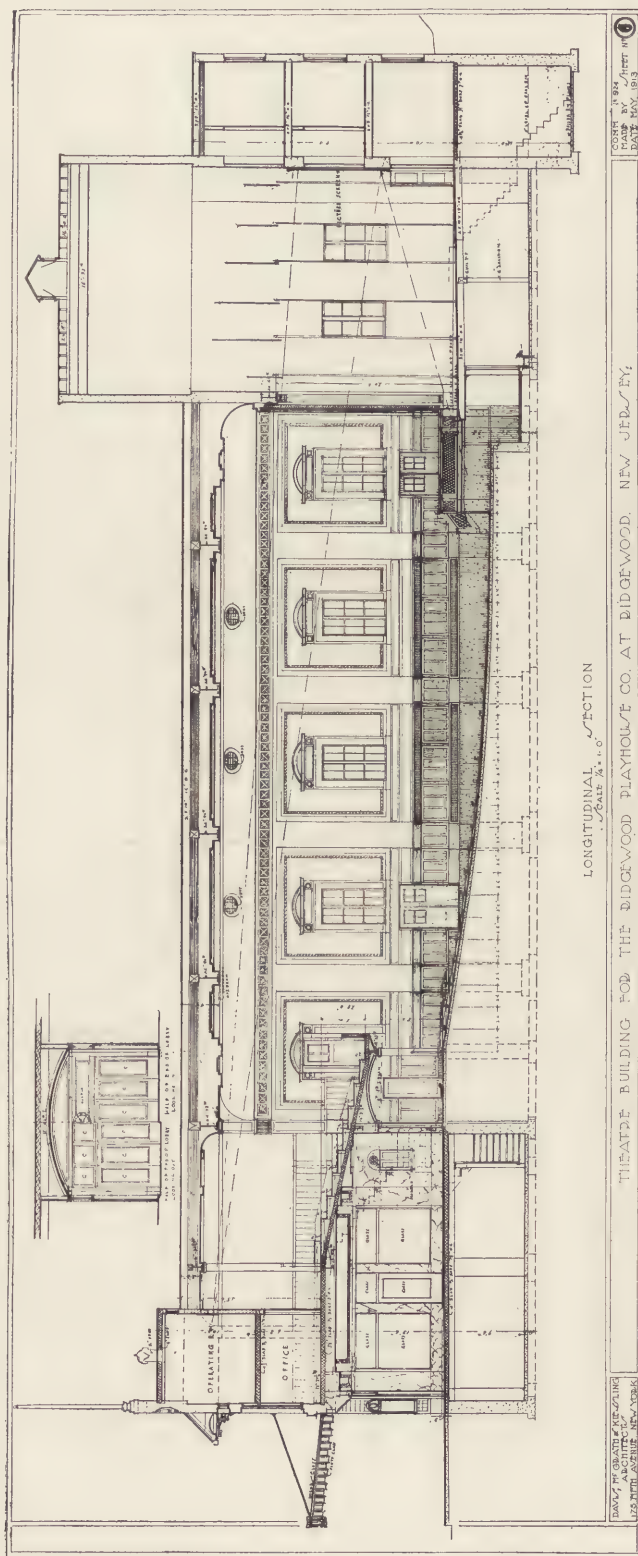
stered, as the performances are usually short. Wood opera chairs are the best type for this purpose. They should be securely fastened to the floor, and no loose chairs should be used in the auditorium, except in boxes.

Because of the vibration of the image the first row of seats should not be less than ten feet from the screen. At the rear there should be at least six feet of clear space, and more in a large house. No aisle should be less than three feet wide, nor should the total width of the aisles be less than one foot for every fifty seats. The aisles should not be too far apart, no seat being more than seven seats away from the nearest aisle.

Fire escapes should be provided for the balcony when one is used. This matter is usually regulated by law, but where there is no law the recommendations of the National Board of Censorship, which are based on a thorough investigation, should be followed. It is generally required that balconies contain not more than one-third the total seating capacity of the hall.

The lighting of the hall need not be very strong, but it should be sufficient so that spectators may be able to enter or leave at any time. Either direct or indirect lights may be used, but any direct lights should be shielded so as to avoid glare. Ceiling lights are the best for this type of building, and any side brackets used should be high enough not to interfere with the audience. Red lights should be placed at all exits. In order that the opening of the doors may not flood the screen with light from the street, partitions should be placed in front of the main doors at about four feet distance.

The heating and ventilating of the hall is a matter of greater difficulty, as the standards of ventilation are somewhat uncertain. The great volume of moving air formerly considered necessary is now no longer advocated, but greater stress is laid on temperature and humidity control. The American Society of Heating and Ventilating Engineers recommend a circulation of fifteen cubic feet per minute per person, with a temperature not

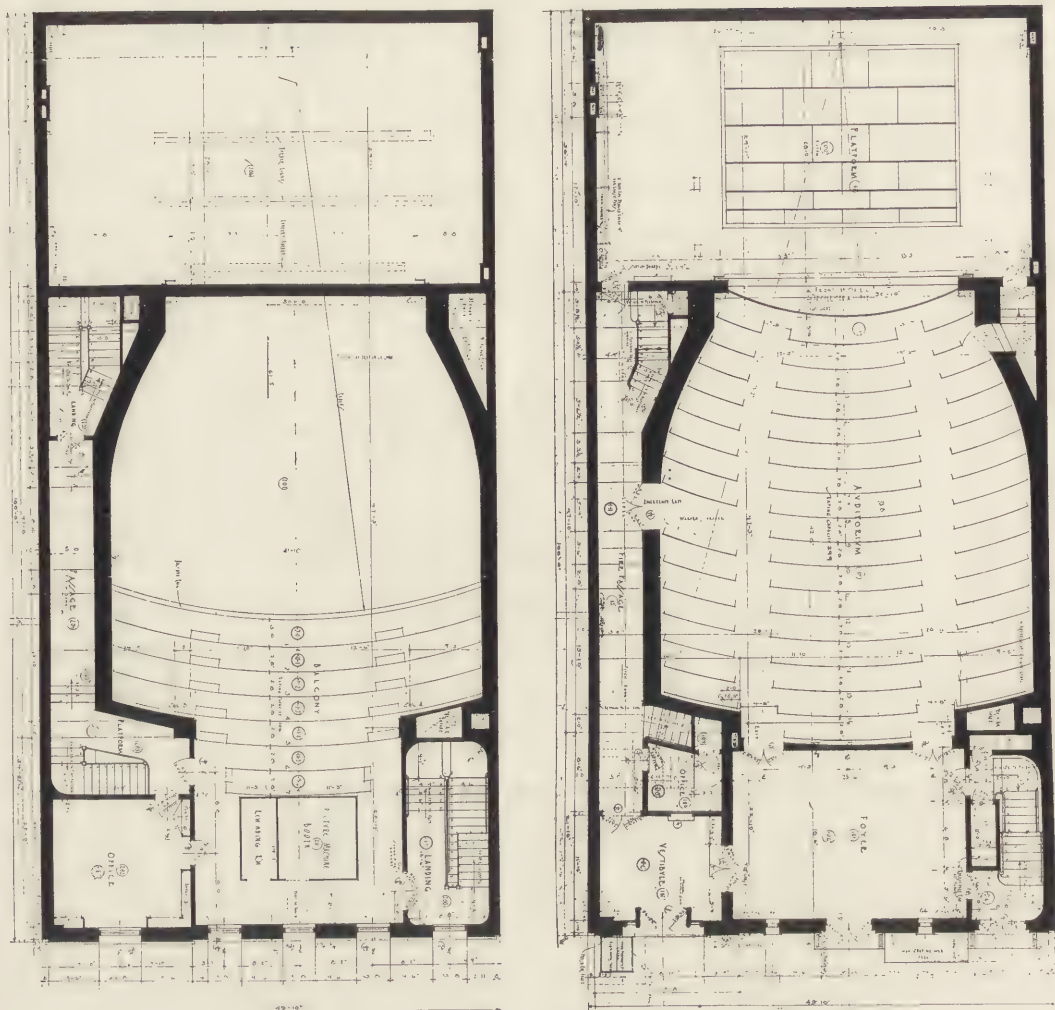


LONGITUDINAL SECTION

THEATRE BUILDING FOR THE BIDGEWOOD PLAYHOUSE CO. AT BRIDGEWOOD, NEW JERSEY

CORNER 7th & 8th AVE. N.Y.
DATE MAY 1913

BRIDGEWOOD PLAYHOUSE CO.
122 N. 7th AVE. NEW YORK



PLANS OF FIRST AND MEZZANINE FLOORS—NEIGHBORHOOD PLAYHOUSE, NEW YORK.
Harry Creighton Ingalls and F. Burrall Hoffman, Jr., Associate Architects.

less than sixty-two to seventy degrees at the breathing line. They recommend also a total capacity of eighty cubic feet per person in the hall, with four and one-third square feet per person exclusive of passages. This floor space is more than complied with by the normal spacing of seats. The air may be heated in various ways, but the use of gas radiators should in no case be tolerated.

The type of hall where the screen is at the same end as the main doors has been advocated by some authorities as lessening the fire risk, since the audience face toward the principal exits, and need

not pass the operating room to reach them. It has the disadvantage of interfering with the attention of the audience, due to the frequent entrances and exits, and is seldom used. An emergency exit at the screen end of the hall is, however, advisable, and is frequently required by law.

The decoration of the hall is usually simple. No great elaboration is necessary, as the waits between reels are usually short, and the audience has little time to admire the auditorium. In the design of the exterior provision must be made for ample entrances and exits. The



THE NEIGHBORHOOD PLAYHOUSE, NEW YORK.

Harry Creighton Ingalls and F. Burrall Hoffman, Jr., Associate Architects.

most usual type has a lobby six feet deep or more, extending almost across the entire front. In the center of its rear wall is the ticket booth, flanked by the entrance and exit doors. Spaces should, if possible, be provided for the placing of posters, but this is rendered difficult by their great variation in size. If the picture companies could be induced to standardize the size of posters a great improvement in this respect would be possible. The inevitable electric sign should also be made part of the design, instead of being, as it usually is at present, a hideous excrescence. This reform, unfortunately, involves the education of the owners, a matter of considerable difficulty.

The laws governing moving picture theatres vary considerably in the different cities and States, and have led to certain differences in planning. In New York

City, for example, the building is subject to the theatre regulations if its seating capacity exceeds six hundred persons, or if it has a stage with scenery, while smaller houses without scenery are governed by a law whose provisions are entirely different, and in most respects less rigorous. In the main, however, these buildings tend toward certain well-defined types, examples of which are shown by the accompanying illustrations.

The Eureka Theatre, in Philadelphia, is an excellent example of the small building used for moving pictures exclusively. The plan represents the simplest type, a rectangular hall with no stage or balconies. In the front is an open lobby, followed by a foyer, with which communicate small toilet rooms at the two sides. The operating booth is placed above the foyer. The auditorium is thirty-eight feet by seventy-six, with



INTERIOR OF AUDITORIUM TOWARD STAGE—NEIGHBORHOOD
PLAYHOUSE, NEW YORK. HARRY CREIGHTON INGALLS
AND F. BURRALL HOFFMAN, JR., ASSOCIATE ARCHITECTS.



INTERIOR OF AUDITORIUM TOWARD BALCONY—NEIGHBOR-
HOOD PLAYHOUSE, NEW YORK. HARRY CREIGHTON INGALLS
AND F. BURRALL HOFFMAN, JR., ASSOCIATE ARCHITECTS.

a seating capacity of four hundred and seventy-seven. The front of the building is of white terra cotta, treated in a very modern style, and is unusually good for a building of this class.

The Victoria Theatre, while less interesting in façade, is worthy of attention because of the development of its plan. The building is forty-eight feet wide and two hundred feet long, running from street to street, and advantage has been taken of this location in providing exits at the screen end, with passages under the stage. The plan is more complete than that of the Eureka Theatre, having a complete stage, and a balcony of considerable size. Having been built several years ago, it contains certain features that would not be considered desirable, notably the stairs at the main entrance. In the main, however, the plan is excellent, and shows the possibilities of a lot offering considerable difficulty of treatment because of its excessive length, and of the difference in the levels of the adjoining streets. The drawing of the plan shows the method adopted in laying out the seats in the auditorium. Toilet rooms are provided in the basement under the vestibule, being reached by the stairs at the rear of the hall. The front, as in the Eureka Theatre, has been developed as an ornamental frontispiece, with a height exceeding that of the actual building.

The Ridgewood Playhouse represents a different type of plan, in which a portion of the front has been given up to small shops, leaving a lobby of considerable depth. The building is equipped not only for moving pictures but also for dramatic performances and concerts, and it is this consideration that has caused the introduction of the loges at the sides of the proscenium. The passages at the sides of the building provide fire exits from the balcony, which extends back over a portion of the entrance lobby. The auditorium is decorated in tones of

brown and gold, the intention being to avoid the usual gaudy type of theatre interior, particularly in view of its fitness for concerts. The front of the building is of stucco, inlaid with brown tiles that recall the decorations of the interior, and is notably successful in that the architects have succeeded in preventing a loss of unity as a result of the introduction of the store fronts.

The Neighborhood Playhouse, in Grand Street, New York City, is an example of the type of theatre in which the exhibition of moving pictures has become subordinate to its other uses. The building was erected by the workers of the Henry Street Settlement for the encouragement of dramatic art among the people of the neighborhood, and is used for regular performances about one-third of the time, the remaining evenings being devoted to moving pictures. The architectural treatment, which contrasts strongly with its surroundings, recalls the Little Theatre, designed by the same architects, although necessarily less luxurious in character. The auditorium is comparatively small, and its form is a compromise between that of a regular theatre and of one used exclusively for moving pictures. It is very simply but effectively treated, the detail being inspired from Georgian examples. The walls are panelled and tinted in a color resembling that of old parchment, with the details in darker tones. The front of the building is of red brick, its detail following also the Georgian precedents. The third story, above the auditorium, is set back from the building line, and treated in stucco. It contains studios, coat-rooms, and other accessories. A special feature of this front is the modest but effective illuminated sign over the main entrance, which adds to the beauty of the structure instead of disfiguring it, as would such an electric sign as is generally used on buildings of this character.



MARQUISE OF THE VANDERBILT HOTEL, NEW YORK.
Warren & Wetmore, Architects.



The MARQUISE ~ AND ITS DESIGN

By John T Fallon



IN the stupendous growth in size and luxury of hotels, department stores and other similar institutions of modern city life, a distinctive feature is the care and consideration that is given by their builders to the comfort of the patrons. An exemplification of this is the extensive use that is being made of the marquee as a protective shelter for those who arrive or leave by motor car or carriage.

As the name would imply, the marquee is of French origin and we have been forced to borrow not only the architectural idea, but also the nomenclature. It would seem more correct, having once adapted it to the peculiar conditions of our own climate, to Anglicise the name, but the word marquee has already a place in the English language, with a meaning

considerably different, namely, that of a large or elaborate tent. The use of the marquee in France has been confined to comparatively recent years and one searches in vain among the old hotels of the Faubourg St. Germain for examples of how the architects of the eighteenth century might have solved this problem. Its development in this country is also one of the last few decades and it is only the exigencies of modern cities and their restrictions in regard to planning that have stimulated an interest in the design of this architectural accessory.

The functions of the marquee are few and defined and its decorative possibilities limited, but to realize that they are not thoroughly appreciated, one has only to recall the comparatively few examples that impress themselves upon one's mem-



MARQUISE OF NO. 998 FIFTH AVENUE.

ory as being at all out of the commonplace. But the study of its various solutions by prominent architects reveals how much grace and beauty there is to be attained by an intelligent handling of its design; from an awkward and ungainly shape, it has been transformed by them into a complementary adjunct of distinction.

The earlier designs of the sidewalk marquee almost invariably show supports at the curb line and several interesting examples reveal the artistic possibilities

of this type. The only one illustrated is that in front of Sherry's, which is scarcely typical, since it seems to have been designed originally without supports and to have been added to at a later date. This type was, however, doomed to be short lived, owing to the obvious lack of freedom of circulation, and comparatively recent ordinances in New York and other cities have been the direct means of fostering the development of the latest and what seems to be the ultimate type, namely, that without supports at the curb line.

In this form it becomes elementally a roof, supported either by brackets or consoles, or suspended entirely from above. Its chief aesthetic requirement is obviously that of lightness, which may be achieved in several ways: by eschewing bulk, both in the constructive and the decorative members, and by a nice relation between it and its apparent supports. When these latter take the form of brackets, etc., their adequacy to support the projecting mass should be unquestioned by the eye. The marquee of the Ritz-Carlton Hotel is illustrative of this particular point, in being apparently carried upon light but strong decorative members that run to the ground.

The slope or pitch of a flat roofed marquee is not a negligible quantity, since this may be made to contribute greatly

MARQUISE OF NO. 998 FIFTH AVENUE, NEW YORK.
McKim, Mead & White, Architects.

to the quality of distinction. A marquise with excessive pitch will appear stiff and awkward, while one that is too flat will be squat and graceless.

The decoration of the marquise is usually restricted to its structural parts and examples like those at the Waldorf Astoria prove that these limitations work for the best results. Quietness and simplicity are more admirable qualities than attempted originality and unrest. For the most prominent part of the marquise, the crown mold, an imaginative designer will adapt a wide range of motives, while the accompanying cheneau lends itself admirably to the gracefulness of Pompeian work or to the delicacy of the Adam style. In the illustrated examples at Shanley's and the Biltmore, designs applied to a glass background form a pleasing motive that at night becomes a series of fanciful silhouettes.

If the supports are in the form of tension rods or chains, little decoration is necessary or desirable; their connection with the wall above, however, affords a chance for a spot of decoration that has been taken advantage of, as at the Vanderbilt Hotel. If brackets are used, there is no limit to the variety of design; the brackets on the marquise at Sherry's are a suggestion for the ultimate effect to be sought for.



MARQUISE OF SHERRY'S, NEW YORK.
McKim, Mead & White, Architects.

A feature of the marquise that is too often neglected is the ornamentation of the soffit, and at night the lighting only too plainly reveals the lost opportunity of the designer. This has been carefully thought out in the design of the example at 998 Fifth Avenue, where good con-



MARQUISE OF BLACK, STARR & FROST BUILDING, NEW YORK.
Carrère & Hastings, Architects.



MARQUISE OF THE CENTURY THEATRE, NEW YORK.
Carrère & Hastings, Architects.

struction has been supplemented by the use of simple moldings; the soffit of the marquee at the Vanderbilt Hotel is even more elaborately detailed and leaves little to be desired in this requirement.

The structural design of the marquee is of no small importance, since, after the

stresses have been determined, and the members laid out, adjustments may often be made that will enhance the design without weakening the framework. As usually designed, a framework of I beams supports the intermediate bars, which in turn hold the glass, and which are made



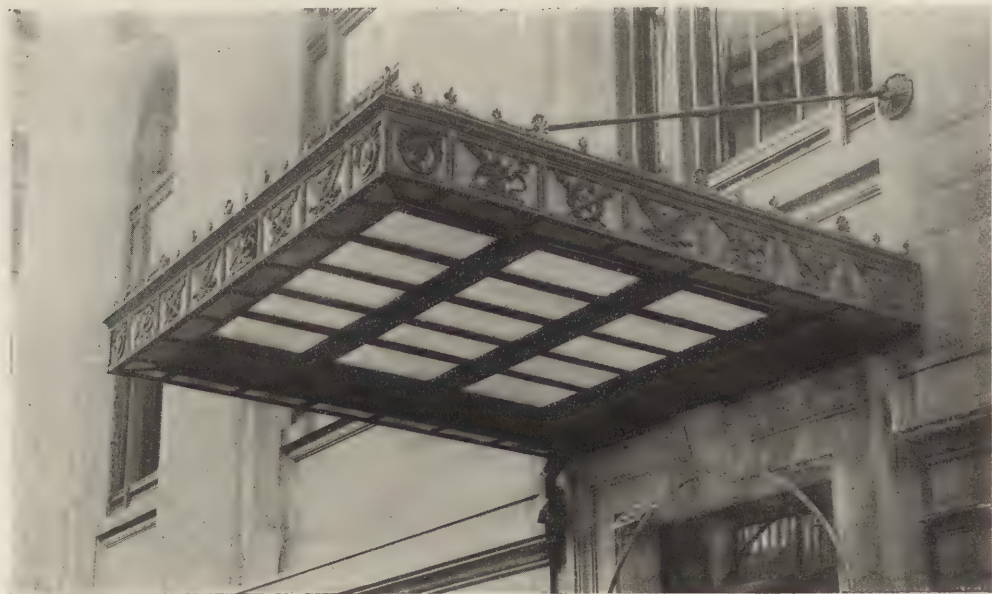
MARQUISE OF THE WALDORF-ASTORIA, NEW YORK.
Charles A. Platt, Architect.



MARQUISE OF SHANLEY'S RESTAURANT, NEW YORK.
Charles A. Platt, Architect.

weatherproof by ordinary skylight construction. Wire glass is used to protect pedestrians from falling fragments in case of breaks, and it is often additionally shielded by a covering of wire netting, as at the Ritz-Carlton, which receives the shock of any falling object.

The structure of the walls will determine what proportion of weight may be carried by the tension rods; when the load of these latter can be transmitted directly to the steel framework of the building, no other provision need be made for the marquee than to take the vertical lead at



MARQUISE OF THE BILTMORE HOTEL, NEW YORK.
Warren & Wetmore, Architects.



MARQUISE OF THE ALTMAN STORE, NEW YORK.
Trowbridge & Livingston, Architects.

the wall. But sometimes it may be found necessary to cantilever out from the wall, in which case the supporting rods become subordinate in importance.

The drainage is best connected with the system inside the building, but if this is impracticable, it should at least not be allowed to flow over the sidewalk and never to discharge directly from above. The lighting is best confined to the outer edge and the illustrations show a variety of methods of combining this with the decorative members, but if additional illumination is required, conduits may be run along the intermediate beams, a not altogether happy arrangement unless the beams are to be covered. At the Vanderbilt Hotel, the lights are placed entirely above the glass and the resulting illumination is soft and diffused, but with this arrangement the slightest accumulation of soot or dirt upon the top of the skylight is made evident.

The marquee designed for the apartment house at 998 Fifth Avenue, by McKim, Mead & White, presents a very skillful handling of the problems mentioned above and unites practically all the qualities desirable in this adjunct. The shape chosen is a felicitous one, viz., that of a sloping roof with intermediate trussed supports which are held at the wall line by small consoles. The cheneau has a distinctly metallic quality and the added shelter provided by the introduc-

tion of a member of glass is made without any sacrifice of lightness. Decorative chains are tied to the wall by a familiar Florentine motive that is here quite appropriate. The photograph shows clearly how little light is cut off and how



MARQUISE OF LORD & TAYLOR'S STORE,
NEW YORK.
Starrett & Van Vleck, Architects.

well it is fitted into the architecture.

Similar in design is that of the Century Theatre, by Carrère & Hastings. A feature of this example is the flatness of the ornamental parts, but the silhouette is less varied, and because of that it has the appearance of greater weight. The inter-

mediate trusses are supported by well-detailed masks. A more successful example from the same office is the exquisite marquise from the jewelry shop of Black, Starr and Frost. The details are here studied with the care and precision of a goldsmith, and the eagles on the corners and the consoles are delicate pieces of modelling and casting. It may be noticed from the photograph that even the turnbuckles on this marquise have received attention.

The illustrated designs from the office of Chas. A. Platt show his accustomed fertility of imagination in matters of detail. Almost the only bit of ornament on the marquise of the Waldorf Astoria Hotel is a delightful cheneau, where classic motives are handled with a free restraint. The lighting is here made an ornamental feature and provides a series of accentuations along the front. The example taken from Shanley's restaurant is full of appropriate lightness and freedom. The frieze of silhouettes is full of decorative value both by day and by night, while the addition of the dolphins on the corners of the roof is an ingenious conceit.

The marquise of the Vanderbilt Hotel, Warren and Wetmore, architects, is unique in its shape, which is hardly the most practical one, affording as it does complete shelter for but one carriage at a time. But its decorative qualities are unquestioned, and it spreads out like a



MARQUISE OF THE RITZ-CARLTON, NEW YORK.
Warren & Wetmore, Architects.

huge Chinese parasol and ties in well with the Adam window above. A note of interest is introduced into the supporting rods at their connection. By the same architects are the marquise at the Biltmore Hotel and the Ritz-Carlton Hotel. At the Biltmore a novel scheme of lighting is obtained by enclosing the bulbs in a continuous glass frame which diffuses the rays of light. Here again a series of metal designs are applied to the glass with effective result. The point of interest in that of the Ritz-Carlton is the supporting piers of decorative ironwork that mark the line of the fence; their gracefully wrought detail adds greatly to the richness of the design.

A special type of marquise is that shown from the Lord and Taylor store, Starrett and Van Vleck, architects. It extends only a few feet from the building and rises in a sweeping curve from the support of heavy brackets; the detailing of these is perhaps a trifle weighty, but the motives used are classic and appropriate. Still another special type is that from the Altman store, Trowbridge and Livingston, architects, where the marquise is composed in connection with storm doors; in spite of the number of motives to be combined, the effect is still one of lightness.

Through all the examples illustrated runs the same conscious striving for a finely expressed solution, the same desire to make out of a utilitarian accessory an object of beauty, which after all is the identical force that in the days of the Renaissance clothed every necessary detail of life in an aesthetic form. We may look to the future for new solutions of the marquise, for by no means has everything been said upon the subject.



VISTA IN COURT OF FLOWERS—PANAMA-
PACIFIC EXPOSITION, SAN FRANCISCO.



VISTA FROM LAGOON, FINE ARTS ROTUNDA—PANAMA-PACIFIC EXPOSITION,
SAN FRANCISCO.



TEXTURE & COLOR
at the PANAMA-PACIFIC
EXPOSITION

By Paul E. Denivelle
*Supervisor of Architectural Model-
ing and Texture for the Exposition*



THE Roman polychrome texture and tone imprinted upon every architectural detail, wall surface and work of sculpture at the Panama-Pacific International Exposition bring into intimate relationship the various units composing the exposition in a manner no other material could have done. Applied, as it has been, to almost every architectural period and style in ornamentation and sculpture, Greek, Roman, Gothic, Renaissance, Saracenic, always enhancing the designer's effort, "travertine," as our simulation, in warmer tones and richer colors, of the natural stone is called, has proved to be the Volapük of materials, capable of all forms of architectural and sculptural expression.

The exposition has its parties so laid out that the main exhibit palaces and the different courts are united in a continuous chain, the whole forming a sort of walled city. The line of demarcation between the different courts, each in a different period of style and by different architects, is not apparent to the layman because of the absence of a structural line of separation between the courts and exhibit palaces. The structural wall of any one of these is also that of its neighbor. It was therefore but logical that a uniform scheme of texture and color should be practicable.

One will readily see that this treatment did not mean monotony of effect. In simulating the real travertine, we went

a step farther and provided a variation in degree of texture and in tone of color. This variation was based on the varying scale of the objects, buildings or courts to which it was applied. In the Fine Arts rotunda, for example, the scale was such, the units were so large, and the planting was so profuse, as to call for a texture large and deep in scale and to demand strong color pigments in the general surface; six months of weather did the rest. The sense of permanence and charm one receives in the Fine Arts is largely due to this treatment. Then, where scale and type were finer in ornamental enrichment, the scale of texture and veining was correspondingly diminished.

A great deal has been said of the glories of night illumination at the exposition. The fact should not be overlooked that the travertine tone and texture made possible the type of illumination here used. Mr. Ryan's scheme was based on semi-indirect lighting, mostly by refraction from building surfaces, and depended for success upon the warm buff color of the travertines.

It is obvious that, in appraising a result, we must take into consideration the means available for its achievement. The primary factor to be considered was that of cost. The dimensions of the project were of such magnitude that each added fraction per unit of area covered was bound to accumulate a prohibitive additional sum to the exposition's cost. Indeed, my services were first sought merely for the purpose of devising materials of sufficient quality to resist the elements during the period required and containing color pigments before applying or fabricating, in order that the expense of the otherwise necessary coats of paint might be economized.

So it came about once again that necessity was the parent of ingenuity. To anyone acquainted with the applying of colored materials in plastic form it is obvious that it is difficult to obtain uniform results from the hands of the most skilled mechanics. Add to this the varying skill, or absence of it, that is bound to be employed in the rush of exposition construction and a fair idea

may be obtained of the problem as it appeared to me. To produce a workmanlike travertine simulation for every detail of building surface, molding, ornament, sculpture, fountains, etc., on a giant project which must be finished within a little more than a year seemed impossible to many whose co-operation was essential. Much opposition was met with from manufacturers, contractors and mechanics, each of whom had to be educated to see the possibilities of his share of the work. The first element of this triumvirate urged the difficulty of converting a mill in part to a colored product without destroying the balance of their output (admitted that it was practical to provide a uniform colored material or series of colors). The second element feared that they would "go broke" while evolving experimentally an acceptable imitation of travertine. The third element naturally reflected the sentiment of their employers. It is gratifying to note that today all three elements are proud of the result.

The following materials were used in connection with the work under my instruction: plaster, 55,000 tons; sand, 60,000 tons; lime hydrate, 1,500 tons. To these materials were added the following colors in dry pigment form: French ochre, 398,488 pounds; raw sienna, 91,741 pounds; burnt sienna, 102,664 pounds; raw umber, 197,393 pounds; red oxide, 11,986 pounds; drop black, 360 pounds; cement green, 4,500 pounds.

The dimensions of the project are well illustrated by the above table of quantities.

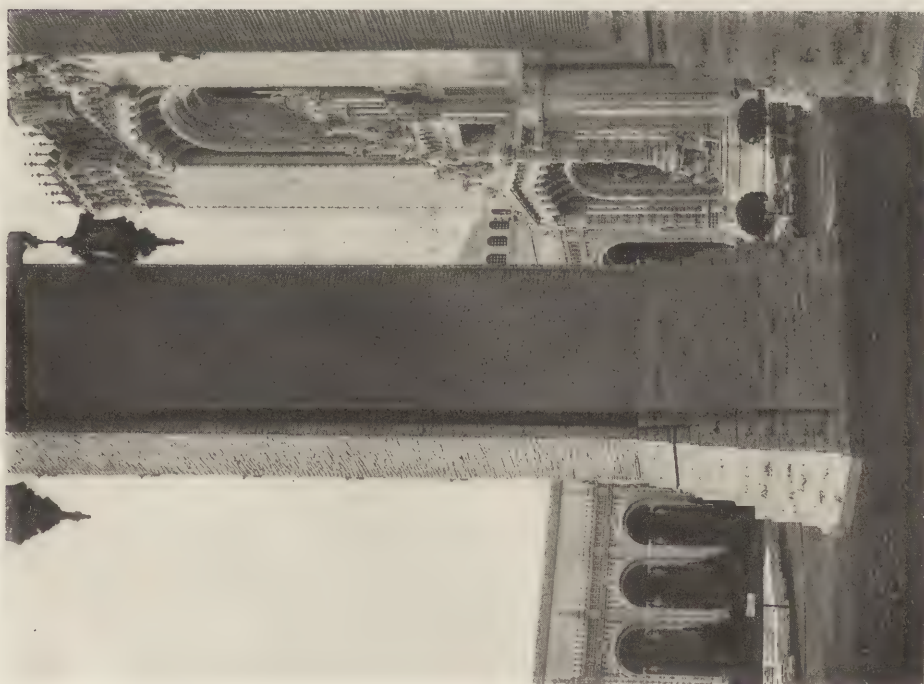
The problem was, of course, simplified by the fact that the buildings and courts were of a temporary nature, the most extended period of endurance required approximating two years and involving two winters with heavy rains. The plastered coating of walls is but three-eighths of an inch, applied on a seven-eighths wood sheathing. The sheathing is six inches wide, having two grooves to form key. All molded and ornamented surfaces were cast in "staff" (plaster and fibre), and nailed to wood furring. This method does not differ radically from former exposition con-



COURT OF ABUNDANCE BY NIGHT ILLUMINATION
—PANAMA-PACIFIC EXPOSITION, SAN FRAN-
CISCO. LOUIS C. MULLGARDT, ARCHITECT.



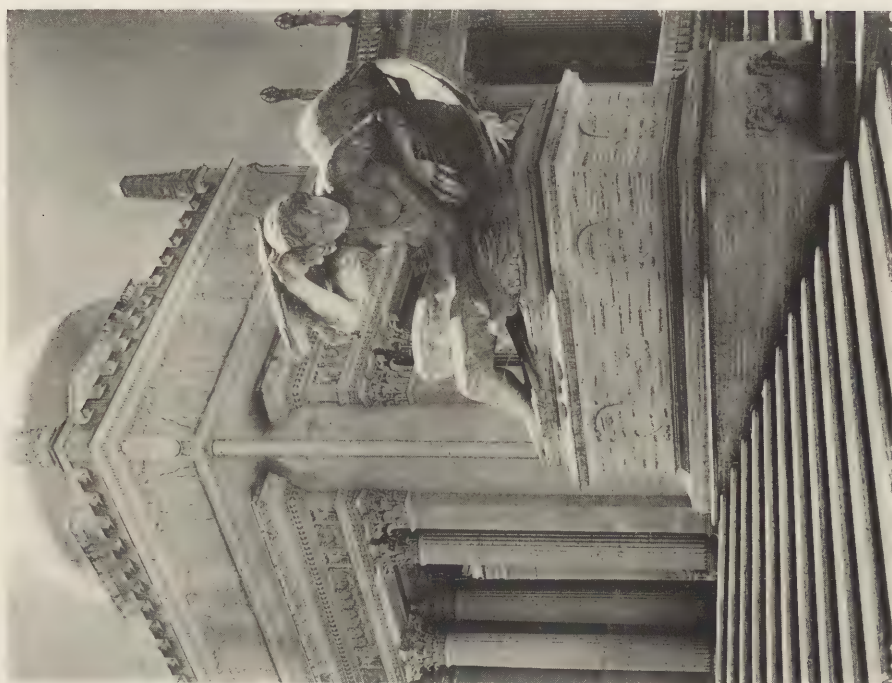
DETAIL OF FINE ARTS COLONNADE—PANAMA-PACIFIC
EXPOSITION, SAN FRANCISCO.



VISTA IN COURT OF AGES—PANAMA-PACIFIC EXPOSITION,
SAN FRANCISCO.



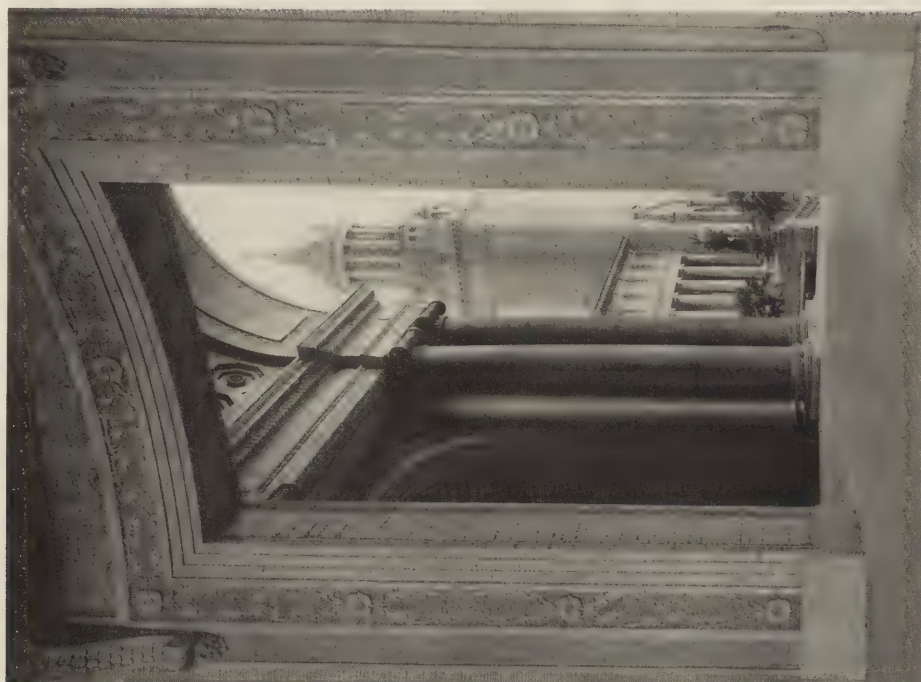
DETAIL OF COLONNADE IN COURT OF THE UNIVERSE
—PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.



SCULPTURE DETAIL IN COURT OF THE UNIVERSE—PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.



SCULPTURE FLANKING TOWER OF JEWELS—PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.



DOORWAY FROM COURT OF FOUR SEASONS TO COURT OF PALMS
—PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.



CLOISTER IN COURT OF PALMS AT NIGHT—PANAMA-PACIFIC
EXPOSITION, SAN FRANCISCO.

struction. But we had to provide materials of seven formulas for the plain and cast surfaces, and for modeling the finished products in sculpture, also for pointing generally. There were seven standard materials supplied. Each of these contained color pigments in varying quantities. This was because the materials were subjected to different forms of use. The wall finish contained a percentage of lime—hydrate, silicate of alumina, a ground wood fibre, and three color pigments, besides the base of pure plaster. For casting, two standard materials were provided, a slow and a quick setting; from these, two others were combined for producing different blends of color in finished product.. Where sculpture was not to be reproduced it was modeled direct in colored materials of a different combination that gave uniformity of color result with plasticity approaching modeling clay. In addition to the above assortment, ready-mixed materials in green, black, red and brown were provided, so that in every case where possible the columns and pilasters flanking certain portals, arches, etc., which were to accent the color note beyond that provided by the travertine, were cast with colors integral with the material. We thereby obtained some original color effects that simulated in a crude way the rarer marbles. The largest example of work of this nature is evidenced in the columns surrounding the Fine Arts rotunda, where the variegated colors have "weathered" to a fine blend of tones. I need hardly emphasize the fact that no painted surfaces could have given the mellow softness provided by the pigmented materials employed, and that we obtained a rich effect of marble and stone which each week of weather improved.

The texture was applied in wall surfaces while the finish coat of mortar was in a plastic state, by means of certain stippling and troweling processes, repeatedly applied under supervision until the desired effect had been obtained. This feature was the most difficult of control because of the constant change in the personnel of the work gangs. The

color and texture to the staff and cast portions were produced by a mechanical process in casting, during which materials of three color blends were separately applied to the mold surface in rotation and in different consistency, the "set" of which was retarded in each mix so that the mass would crystallize as a unit. The texture or voids were caused by a layer of a semi-dry mix interposed between a series of veins previously poured over the mold surface and by another semi-liquid coating poured over the semi-dry which seeped through by gravity and bound the mass, at the same time automatically leaving sufficient voids or texture, the forms of which were controlled by the surface veining as by a stencil. The texture in modeled sculpture was obtained by the sculptor as he approached the built up surface, by means of special stippling.

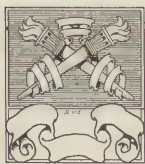
The foregoing describes the essence of the general procedure. This travertine treatment has been referred to by architectural critics as having "made" the exposition of 1915. In its achievement I am indebted to Jules Guerin, Chief of Decoration, who would not countenance white surfaces; McKim, Mead and White, who suggested my services because of my solution of a similar problem connected with the Pennsylvania Station in New York, where the idea originated; George W. Kelham, Chief of Architecture, and the many architects of the exposition who provided a moral pressure which helped defeat opposition.

This nearly perfect Arcadia must soon disappear, to be retained as a vision of memory, except for the beggarly photographic records that may remain. But the lesson of its general color and texture is so forceful that it must soon be considered in connection with future permanent civic improvements. Its lesson of the value of texture and tone as an enhancement to the architect's every effort cannot, to my mind, be ignored. Probably the most important thing to remember is that the same and a superior quality of result can be obtained in permanent work in any climate.



SCENE PAINTING IN ARCHITECTURE

By Wm. L. Woollett



DO you remember your first night in Venice? You had planned to get your first impression by moonlight, and you arrived as you had planned, and got all of the thrills that you expected. The next morning when you opened the casement and looked down on the unlovely waters of the Grand Canal, the slippery steps of your palace were not the polished marble threshold they had been the night before; and yet now as you remember that first moonlight night you rest again serenely in the rippling silence of spreading waters. Dimly reflected towers and domes and lights and darting song-filled gondolas drift before you. The black depth of a narrow canal, broken by the doomful Bridge of Sighs, the empty plaza of St. Mark's, the idle flapping of a colored sail—all come back; and something stirs in the realms of your being, you know not what, but it's something worth while, something akin to Dante and Virgil and the Doges of Venice.

Have you lingered in the crumbling ruins of the Baths of Caracalla until dusk is overtaken by the young moon, her gracious rays distributing life in the shadow pockets, the richness of color vivifying memory's pages? The tinkle of the water in the fountain comes to the ear; rippling laughter of round-limbed bathers echoes from the polished walls; the flash of sun on the oiled and supple skin of Nubian attendants, the moving muscles of the masseurs waving palm branches in the summer air are before you—and then someone says: "Let's go home." The walls are again crumbling piles of pottery and rock, or any old thing you please, and yet as you falter in the going, the lump stays in your throat, the lump that comes when beauty too plenteous in measure knocks to your imagination.

Have you been in Cataract Gorge, back of the mountain, where the hillsides,

broken and cleft with the roots of giant redwoods, rise high from black pools, where gnarled trunks and boulders in herculean labyrinth divide the waters of the cataract? Have you pierced the shaggy underbrush and stood beside the waving forms of the Bridal Veil on carpet soft and thick and green, and seen there the thin, blue, green-grey in the depths of leafy dells below, above, about you, as Gainsborough paints them? Have you listened to the plaint and murmur of trout-clear waters, pushed your fingers into the springy moss, drunk of the pool? Have you stood beside the giant madrone in this canyon and sensed the coming together of overtopping hills, where one feels himself about to be crushed between the knees of Mother Earth? Have you lain on your back near the storm of the waters and, peering aloft, spelled the names of Goth and Viking in the intertwining drooping boughs of the forest? Have you, at high-noon when the light of heaven was so scanty as scarcely to move a single shadow, there seen the hobgoblins peep and peer and scamper behind ghostly boulders? Have you seen the whole corrugated labyrinth of bouldered creek and the rough fetlocks of the encircling crags and the big trunks with their twisting roots and the little stones, everything about you covered with a mantle of soft green? And did you not in the rhythmic silence bend to the mystery of the place and understand why no bird-twitter challenged the pelting noises of the waterfall?

Have you been in the Greek Theatre of Berkeley with Margaret Anglin and Electra? Do you remember the cadence, when, with a majestic grace and rhythmic coming down, two youths bearing gifts of flowers attend a sacrifice to the gods, and on either side and to the fore were others of lesser mien also bearing garlands; these four enjoined with drooping sprays descend the broad steps



PALACE OF FINE ARTS, PANAMA-PACIFIC EXPOSITION,
SAN FRANCISCO. BERNARD MAYBECK, ARCHITECT.

of the temple to the green before the altar, their steps in unison, and accompanying music seeming to emanate from a vision of rhythm and color? The deep shadow of the temple portal is behind; beside the portal the black shapes of noble-limbed human, immobile statues stand; on either flank are the serried ranks of columns, creamy and mellowing as time alone mellows purest marble; below, the altar and the green turf. Over all the pale moon vests with unnatural light a scene in which Electra lives again.

Have you recognized, in the abstract qualities of light and of shadow, of form, of music, the handmaidens of the artist? Yes, a thousand times, yes! In these simple and common experiences we discern not only the principle and influence of abstract qualities when harmoniously combined as a setting for the display of an idea, or emotion, but we are bound to realize also that "scene painting" is a common habit of the mind. Having seen visions and dreamed dreams, it is not necessary to dwell on the value of abstractions, or to emphasize the fact that reservoirs of vital forces of suggestion dwell, awaiting the call of the imagination, in every form and color combination and sequence. Each rich, ennobling and beautiful thought comes not of itself, fully grown from the loins of self, but is born of a panoply of abstractions, which are derived from and incited by the real in some phase. Thus, old and faded Venice in the shadows of the night, ruined walls, and perishable modern theatre trappings, and simple nature are equally efficient in setting the imagination aflame. Scene-painting, then, is a large term and may well include for the moment the entire field in which the mind appropriates abstract values as a stimulant for the imagination. In this conception of scene-painting we have a first hand knowledge of the power of suggestion inherent in the qualities of things of form and color; the power of historical association, of things of familiar use, of things of ugliness or beauty, to suggest in the abstract complete thoughts, emotions, pictures, stories. Taken in this sense, exposition architecture may be deemed to be in the category of "scene-painting."

Ordinarily, architecture has a double duty to perform; it must satisfy the practical, and it must be beautiful, suggestive, fill the aesthetic requirements. In exposition architecture, however, the architect is at play; his chief mission is to please, to stimulate; the practical is at least in abeyance. If one will but enter into the "spirit" of the play, the pageant offered to the imagination by the Panama-Pacific International Exposition becomes redolent with peculiar beauties. This spirit informs you that these palaces are real in the same way that streets, lanes, gardens, fences are real in a real play on the stage, and this California exposition scene is no "make-believe." It is a real play.

Of all the sights displayed at night, the dome-crowned Palace of Fine Arts, a vast opal-like vision in a jewelled setting of reflected lights, claims your thoughts and sets aglow the torches of memory. Do you see those great columns in groups of different size and height, and the masses of towering masonry above them, the marble and the bas-reliefs? They make you think of brave deeds and a civilization of opulence and power, aristocratic and barbaric, almost Moorish. And do you see the color on the towering piers and terraces and steps that flushes softly radiant, and the banners in the breeze, and steeds with wings that fly and claim you for romps in far Arcadia; the massive chunks of broken cornices, the syncopated high and low of the sky lines, the deep shadows where glow the embers of altar fires and broad steps where swept just now the trailing robes of Lacollus and his tribe, yielding a harvest of color pictures, rich in purples and ermine and lemon-yellow and gold? There a peacock stands and then with measured tread meanders through the lofty portals that lose themselves in the deep of the night. Across the water a hundred-oared galley has come and gone, and now you know again silence, solid and unbroken, save for the water tremulous and riffing through the reeds. The lily pads rustle and smite each other in tiny acclaim while you wait for the dream to go on.

This "dream business" is the magic of suggestion that the architect of the Fine

Arts Building of the Exposition has succeeded in bringing to his assistance. You who have dreamed in the Grand Canal, you who have worshipped in the ruins of Rome, and have painted scenes for yourself in many lands, and who know the stage, you understand this language; and though you know that this palace is only plaster, that these tripods where smoke the embers of vestal fires are only wood, that there was no hundred-oared galley, no stirring of the waters of the pool, you are grateful to the author of such a stimulating picture.

The Fine Arts group of the Panama-Pacific International Exposition must then be viewed purely as a piece of "scene-painting." Masterful and a "decoy" for beautiful dreams, it marks an epoch in exposition architecture. It is the kind of thing, in spirit and method, that ought to dominate in exposition work. This group and the Mullgardt Court are the only elements in the exposition that unmistakably say, "This is a dream. The dream I dream is true and you are part of the dream," and the author of the dream knows that he was dreaming and that the dream has come true.

Such is the aspirational, individual

quality of this work that no one for an instant believes that antiquity has more than furnished inspiration for the design, no one forgets for an instant that it is merely a dream of perishable material, and not amenable to the standards of permanent buildings. As an effect in color, it is explicit, intelligent, and a successful effort in the realm of abstract art. That the canons of good architecture are not satisfied, that precedent and propriety, and the standards of good taste have in minor details been scandalized, that color has done its worst and its best all in one, that as a permanent work of architecture this group of buildings would be impossible is totally beside the point. That they are expositional, that they attract, inspire and uplift, gratify and please the public, the artist, the critic, is the real test, and as Mr. Hornbostle, the architect, is reported to have said at a dinner of the San Francisco Chapter of the American Institute of Architects, "If the camera shots taken by the public within the exposition grounds could be seen, you would probably find that there were more pictures of the Fine Arts group than of any other portion. Gentlemen, I take off my hat to Mr. Maybeck."





Personal Reminiscences of **CHARLES FOLLEN MCKIM**

By Glenn Brown



*McKim and The American
Institute of Architects*



IN 1901 the Institute, although of dignified age and high ideals, had not attained sufficient prominence for ambitious men eagerly to seek its presidency.

At the Buffalo Convention, the nominating committee, with the intention of making the Institute of greater public service, determined to secure a man whose name would give lustre to the association, add to its standing both with artists and with the public and lead it to a social prestige it did not have.

Charles Follen McKim, who stood alone as the member representing the highest type in ethics, design and social position, was, without being consulted, nominated and elected president.

His friends persistently asserted that he would never accept an onerous office, adding nothing to his reputation, tendered to him for the purpose of increasing the prestige of the Institute. These repeated assertions made me, whose duty it was to notify him of the election, nervous as to the result, and diplomatic in seeking the most effective way to secure his acceptance.

A letter of notification, we felt certain, would meet with a prompt declination of an office which had been thrust upon him without a hint of our intentions or a knowledge of his inclinations. A personal notification was considered safest. I called at his office in New York with hesitation, knowing the demands would be heavy on his valuable time, and with anxiety, as I felt his acceptance meant so much to the future welfare of the association. After running the usual gauntlet of the big New York office, held up by the office boy, investigated by the head attendant and approved by the general manager, feel-

ing meek and insignificant I finally reached the sanctuary of McKim.

His friendly and affable reception restored my lost dignity and after preliminary greetings, McKim was informed of his election as president of the Institute at the Buffalo Convention. Doubt, astonishment and apprehension were expressed in his face as he said:

"You can't be in earnest, you must be joking."

"We are very much in earnest," I replied. "Mr. President, the convention was unanimous in selecting you as the man best representing the Institute and the one who can do most to make its work of great public service."

"I am not fitted for the office," he stated. "I have taken no part in the Institute's work for years and know very few of its members—I could never preside over a convention. I know I am not suited for a presiding officer."

Arguments were then presented showing how we needed a man of his character and ability in the campaign for better government architecture, for the future development of Washington and for the education of the public in the fine arts, and impressed upon him the public service he could, in this position, render his country. Mr. William R. Mead, who had been called into the conference, backed these arguments, telling him he was just the man for the place, saying he should not give way to his inclinations, but should accept the position because of the benefit he could render both the profession and the people. What he feared most was evidently the necessity of presiding over large meetings. We convinced him that this was the least important of a president's duties. Finally, being assured that he

might, through the Institute, be instrumental in advancing the fine arts, he yielded to our arguments and accepted the position with diffidence, still expressing doubts as to his fitness.

The name of the society was at this time little known outside of the profession. McKim's first ambition was to interest the people in its ideals and to secure the cooperation of influential men in its efforts for the public welfare; his next step was to secure the confidence and good will of government officials. He endeavored to impress both the public and the government with the value of artistic buildings and monuments as records to future generations of our culture and civilization and educate the public to an appreciation of the usefulness of art and beauty in the refinement and culture of living generations.

He laid his plans to prove the Institute's aims meritorious and unselfish and to convince the people that the association was worthy of public and governmental confidence. He immediately began, in his charmingly diffident, persistent, practical way, to secure the desired results. Nothing was too insignificant to be overlooked or too large to be undertaken if it was a means toward attaining his ends.

A brief description of two occurrences will illustrate McKim's way.

Permanent offices or headquarters for the Institute had been under discussion by the officers and members of the association for thirty years.

While it was felt that a permanent home would be of material advantage, nothing had been accomplished toward securing it, although many efforts had been made to raise a fund for this purpose. The Octagon, built in 1800, one of the most attractive houses of the period remaining in the country, was considered desirable headquarters. A short time after McKim became president he said one afternoon:

"We need a recognized home to give us dignity and standing. The Octagon is an ideal house for this purpose. Don't you think the majority of the members would like it? How much do the owners ask for it?"

"I believe the members would unani-

mously approve the Octagon as their future home," the answer was; "although the owners have fixed no price, I believe we can get it for thirty thousand dollars."

"Make them an offer," he replied, "of thirty thousand dollars, ten thousand to be paid in cash upon their showing a clear title."

"But, Mr. McKim," I said, "we have only five hundred dollars in the treasury."

"I will see," he replied, "that you get the ten thousand cash payment. If I cannot get others to join me, I will send you my check for the amount as soon as they show a clear title and are ready for the first payment."

The offer was made the next day. It was accepted and a clear title was furnished in about two weeks; the cash payment was made, and the Octagon became the property of the Institute.

This transaction demonstrated McKim's influence with his brother architects. He found it necessary only to tell five of the strongest architectural firms that the Institute had purchased the Octagon, say he wanted two thousand dollars each from them as a first payment, and I had the checks in my hands within ten days.

It may be noted that the same men had been urged time and again, without effect, to subscribe a few hundred dollars for the purchase of this building. The Octagon soon became a show place, an interesting object of pilgrimage for the prominent in social and political life, due to McKim's constant praising of its artistic beauty, historic association and architectural interest.

While McKim had a horror of meaningless publicity and ordinary newspaper notoriety, a constant bragging over trifles, he thoroughly appreciated the importance of bringing the name of the Institute and what it desired to accomplish effectively before those whose interest would secure results.

To accomplish this end no labor was too great to impose upon himself or to demand of his assistants and his friends.

What is known as the McKim Dinner of the Institute well illustrates his

watchfulness over details and infinite pains in securing his ends.

The preparation for this dinner began seven months before the date fixed for the banquet. It was intended to inaugurate with this event an annual dinner by the American Institute of Architects given to enlighten the public on the fine arts. The objects of the first dinner were to interest influential men of the country in future government structures and to secure a permanent foundation for the American Academy in Rome to offer an opportunity for post graduate study to the brightest of our young architects, sculptors and painters.

He determined to bring together at this banquet the most brilliant and capable men eminent in art, literature, finance, science and industrial arts and to secure the attendance of leaders in the executive and legislative departments of the government.

Before he began his campaign, he determined to secure the sympathy and help of Elihu Root and Nicholas Murray Butler. McKim's plans were unfolded to them at a private dinner when he aroused their interest and secured their support, which meant months of active cooperation. With their assistance, together with his personal efforts, McKim proceeded to arouse the interest and secure the assistance of prominent men in government and private circles. He first obtained the aid of President Roosevelt, the Ambassador of France, John Hay, Secretary of State, in official life; then he proceeded to get the help of, among others, Mr. J. P. Morgan, of the financial world; Saint Gaudens, representing sculpture; Frank Millet, in mural decoration; Mr. A. J. Cassatt, the railroad executive, and Cardinal Gibbons, the church prelate.

President Roosevelt, Senator Root, Nicholas Murray Butler, Ambassador Jusserand, Saint Gaudens, LaFarge and Speaker Cannon promised to speak.

The names of the noted guests and a list of the principal speakers, together with a carefully prepared letter which outlined the objects of the dinner, were sent to all others whose interest and cooperation we wished to secure. We

found no difficulty, after this preliminary preparation, in obtaining acceptances from the sixty-five individuals we desired for the head table. Each was selected as the leader in his art, industry or profession or in a branch of the government service.

The best hotel in Washington at that time was the Arlington. The painting and decorations of its dining-room did not satisfy McKim, because of their want of artistic expression. Frank Millet, ever ready to help, was called in, and he devised a complete scheme of decoration for the room, so that it might be fitting the artistic dignity of the occasion. Refitting and decorating a large hall meant zealous day and night work for Millet and myself, as well as for the decorators. Mrs. Roosevelt having been invited, it was thought necessary at the last minute to erect a private box to seat about fifty people. This was built, decorated and placed at the disposition of the Lady of the White House and her friends.

The room, as completed, was dignified and chaste, the walls were covered with unbleached, pleated and draped cotton. The cream color of the cotton and the shadow of the folds gave a warm, soft, grey background. Green vines, palms, a trophy of flags and the flowers on the tables furnished color and completed a harmonious decoration.

McKim with personal solicitude saw that the invitation cards were of the highest type of the engraver's art. The table plan was printed in a dignified, attractive way, based upon a similar plan of an important dinner given by the Royal Institute of British Architects. McKim had special seals designed under his direction from which steel dies were cut; from these embossed prints were made on the invitation cards and table plan. Apt quotations and apt descriptive paragraphs were selected to be printed on the table plan to accompany each speaker's toast.

Seating sixty-five distinguished guests, among whom were the most prominent officials of this and other countries, and the most distinguished representatives of the arts and industries of the United



CHARLES FOLLEN McKIM.

States, was a matter of serious study to McKim.

The precedence of ambassadors, Cabinet officers, Senators and others are not settled questions in this country, as they are in Europe. To avoid mistakes, McKim directed me to obtain from the Assistant Secretary of State a list showing the relative importance of each individual official at ceremonial functions. Upon consultation with other officials we found a decided difference of opinion as to the rank and precedence demanded in government positions. McKim found it necessary to decide whether officials should precede men equally eminent in other walks of life. Was Saint Gaudens more important than a Senator? Was Mr. Morgan, the financier, equal or superior in standing to the Speaker of the House? Should Mr. Cassatt, the railroad executive, precede a general in the Army? Was Cardinal Gibbons, the religious prelate, superior to a secular ambassador?

One morning, about ten o'clock, McKim and I sat down to locate the seats of the guests on the dinner plan, in order to send them to the printer. After gathering all the information available and considering the suggestions made by those in and out of office, we worked without intermission until the afternoon, taking a bite for luncheon, with the plan before us, weighing the relative importance and proper place for each individual guest. At five o'clock it was necessary for McKim to leave Washington to meet an engagement in Boston the next morning.

When the time came for him to leave, the seating was still more or less chaotic, and I was asked to get on the train and go as far as Baltimore with him. A state room was secured and the shifting of names and places resumed. The arrangement was still unsettled at Baltimore and I was informed that I could get off at Philadelphia. When we reached that city the seating was nearer completion but still not satisfactory. I telegraphed that I would not be home that night and went on to New York. Just before reaching New York the table plan was completed, and officials

and leading men in other walks of life were placed in what McKim considered their proper seats at the head table. I returned to Washington on the midnight train and McKim went on to Boston.

The question of music to delight the ear and food to tempt the palate was not ignored. McKim was a connoisseur both in music and in viands for the table. He took pains to get the best voices for a song and the best instrumental music to be found in Washington for the orchestra, selecting both the song and the music so as to emphasize the speeches and fit into the spirit of the toasts.

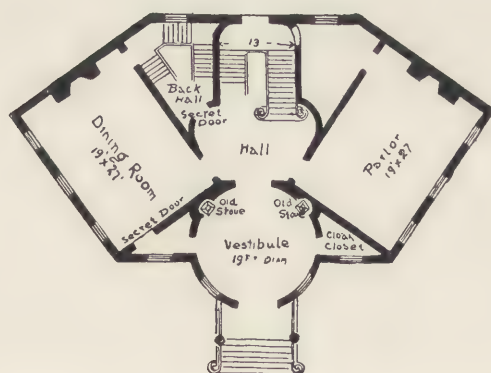
The menu, while limited in number of dishes, represented the best to be secured from the Chesapeake Bay and its tributaries, such as terrapin, canvas-back duck and Smithfield ham served to tempt the eye and cooked to tickle the palate.

McKim personally chartered a special train from New York to Washington on which he brought the speakers and guests from New York, Baltimore and Philadelphia. This train returned to New York after the banquet.

Entering the banquet hall the guests must have been pleasurably inspired by the room with its warm cream-grey walls, decorated with palms springing from green plaques, which bore the names of the thirty chapters of the Institute—a room in which evergreen festoons and moldings emphasized architectural lines. Back of the president's chair was the great seal of the Institute and on the western wall, flanked by trophies of State flags, was placed the initials of the association.

The guests' table, raised two feet from the floor, encircled three sides of the room. Flowers decorated the tables, lending the necessary color to give the room its charming effect. After the body of the members were seated, other members sought the guests in the reception room to whom they had been assigned. A procession was formed and the body marched into the banquet hall, the members at the tables standing until the guests were seated.

When Mrs. Roosevelt and the ladies entered her private box the men arose



VIEW AND FIRST FLOOR PLAN OF THE OCTAGON, WASHINGTON, D. C.

and the male quartet sang "Hail to the Fairest." The president of the Institute then gave the toast "To the gracious lady whose presence is an inspiration because her thought is ever on the things that are true."

The Institute, in this demonstration, wished to show its appreciation of Mrs. Roosevelt's sympathy and assistance in carrying forward the Park Commission plans for Washington and in the restoration of the White House to its former beauty and dignity.

President Roosevelt entered just before the speaking, as the orchestra played the National Anthem; he responded to the toast "The fathers of the Republic who established liberty and wise laws and left us also noble architecture nobly placed."

Roosevelt, after speaking of the general character of our executive and legislative departments, called attention to the importance of artistic and harmonious expression in our architecture, parks, statues and decorations, as leading to the culture and refinement of the people. Upon this occasion Roosevelt pledged himself publicly for the first time to support the execution of the Park Commission plan for the development of Washington, a pledge which he faithfully and strenuously kept. In closing his address, he said:

"The only way in which we can hope to have artistic work done by the Nation, State or municipality, is to have such a growth of popular sentiment as will render it incumbent upon successive administrations or successive legislative bodies to carry out steadily a plan chosen for them, worked out for them, by such a body of men as that gathered here this evening."

The speeches made upon this occasion were notable for the character of the speakers, for the six months allowed for preparation and the evident thought each speaker had given the topic assigned him. The addresses were published by the Institute in pamphlet form in 1905.

Ambassador Jules Jusserand and Nicholas Murray Butler spoke on "The Place of Art in Civilization," while "Art

and Religion" was the topic of Cardinal Gibbons.

Mr. Elihu Root, of whom it is not too much to say that no one has so steadily and sympathetically and with such ability assisted our profession toward the highest expression of architectural ideals, spoke on "The Simple Life." In his address he called attention to the efforts of early Presidents to secure the best in art by seeking the ablest men from this country and abroad. The speech was a masterpiece in thought, leading the hearers to appreciate the moral value of beauty in the culture of the public.

John LaFarge answered the toast to the painters, and Augustus Saint Gaudens answered the toast to the sculptors.

Justice Harlan, of the Supreme Court, gave an address on the "Higher Law."

Speaker Cannon, who had persistently opposed all suggestions made by the Institute and was looked upon as the principal obstacle to the improvement of government fine arts, when he arose to speak, was greeted by the members standing, with cheers and the song "For He's a Jolly Good Fellow." Answering to the toast "Architecture and the Appropriations," he said, "I am proud of what you architects have accomplished. Sometimes I have said things that many of you did not approve. . . . I have heard that there are architects and architects. All of them are not perfect, yet progress has been made."

The members looked upon this speech as an encouragement and a harbinger of future success.

It may be asked, Why spend so much thought, time and labor on the details of a mere social gathering? McKim believed in giving the Institute a social as well as an artistic standing in the country, knowing the effective power of the social world in gaining its ends, and wishing to direct its energies into work for the ideals of the Institute. He wished to impress upon the leaders in the industrial, literary and official world, the importance and value of the fine arts as an element in the cultivation and elevation of the masses.

He determined to make the occasion

one that would not be forgotten and the thought of which would inspire all to future efforts in the development of the fine arts. The occasion was to be so notable that nothing would offend the taste of the artist, jar the ear of the musician, vex the mind of the literary man, and still be sumptuous enough to satisfy the wealthy and critical.

The importance of government expression in the fine arts, in which the capital city was included, and the great value of placing the American Academy in Rome, a post graduate school for artists, on a firm basis, were the topics impressed upon the audience by the speakers.

This was the occasion when Mr. Root announced the gift of one hundred thousand dollars each by J. P. Morgan and Henry Walters to the Academy in Rome. After these gifts were announced the loving cup, starting with Mr. Morgan, was passed along the head table. As immediate result of this banquet were gifts of six hundred thousand dollars to the American Academy in Rome. The banquet made the Institute known to the distinguished and influential people throughout the United States and it was a great factor in securing the development of the Park Commission plan. After this event we found it easy to secure attention to our demands. The Institute's success in preventing the location of the Agriculture Building in the center of the Mall, where it would have cut off the vista from the Capitol to the Washington Monument, the placing of the Grant Monument in the Ellipse, where it would have destroyed the beautiful view down the river, and the location of the Lincoln Memorial where it would become an addendum to the Pennsylvania Station, was due largely to the strength of friends made by this dinner. The acquaintance secured by the dinner was a factor in preventing the erection of the House and Senate office buildings and the extension of the Capitol without a competent architect. Improvement in the practice of the Supervising Architect's office and securing the

Fine Arts Commission may be credited to the interest aroused on this occasion.

It is an event that is still remembered and is still working for good through those who were present.

McKim from the time he became president took an active and controlling part in the good work of the association.

He abhorred devoting the time of conventions to changes in by-laws which did nothing to advance or better the association or serve the public and he opposed formulating rules and regulations to govern the conduct of members, feeling that it belittled the association, as professional men of standing did not require regulation of their conduct.

His efforts were all directed to interest the public in the fine arts, to improve the standards of education, to prevent the government and municipalities from erecting crude and inartistic monuments or buildings and destroying beautiful natural scenery.

McKim was retiring and seldom took an apparent active part in the large meetings, and for this reason a larger part of the membership failed, I believe, to appreciate the great work he did for the Institute and, through it, for the country. He worked tirelessly and effectively through his subordinates and his committees, allowing no rest for them or himself. He called to his assistance such men as Elihu Root, Frank Millet, Augustus Saint Gaudens, Nicholas Murray Butler and, upon occasion, Theodore Roosevelt and William H. Taft, and always found them ready to give time and thought to any cause he assured them was good.

His power to interest and secure the cooperation and active assistance of prominent men was unsurpassed. He, with the secretary, Frank Millet, and Augustus Saint Gaudens, many times worked through the early hours of the night until the morning hours, giving careful consideration to Institute efforts for the advancement of fine arts, for it was always architecture, painting, sculpture and landscape that he considered.



SIX ETCHINGS OF BROOKLYN BRIDGE

By Henri De Ville
With Text by Mildred Stapley



WANDER for an hour along lower Broadway and you soon feel how consciously fantastic its tall buildings are. From the Pulitzer, first of its class, to the new Woolworth, every business structure is an avowed effort to go higher; height first and beauty afterwards, if possible. In many instances, fortunately, it has been possible; and yet after an hour's straining gaze up at these beautiful facades one begins to feel a certain monotony in their appeal. All seem to be shouting "The engineer gave me my astounding steel skeleton and the architect draped it. I am the new New York. I have swept away nearly every trace of thirty years ago."

This is the moment for turning due east along Frankfort Street where the splendid masonry arches of Brooklyn Bridge give the lie to the merely stone-draped steel monsters. Soon you reach the open water front and come upon a life so different from that of Broadway that you might have traveled miles instead of minutes to reach it. Here in its old-fashioned garb the New York of early years dares still to exist. Here there is no deliberate aim at being conspicuous, no feverish thronging; yet all is busy enough to bespeak a thriving seaport. Powerful looking men load and unload waiting ships, and carts gay with tropic fruits pass by; for this is where the West Indian and South American vessels disgorge their treasure.

Here the low brick dwellings of generations ago house homely trades that are spurned of Broadway and that could exist only where boats and their crews are forever coming and going. Look at this corner house unapproachable because of the heavy iron chains and anchors heaped against it; and there is one with its whole front picturesquely festooned with rope—thin rope, thick rope, giant rope. The next is dedicated to pulleys—a huge

three-foot pulley outside and others of ever-decreasing size in the window. Even the candy-store whose wares outvie the tropic fruits in brilliancy is germane to the locality, for these powerful stevedores and truckmen are merely big boys to whose palate pink gum-drops and lollypops are still dear. Arriving in their neighborhood at noon one finds every mother's son of them concerned in reducing an enormous half-pie to a slender crescent. Never is less than half a pie bought, and never does a consumer attack it in any other way than from the center rimwards. Your pie-eater's gaze is sure to be fixed, as he stands lurching, on the free side of South Street where the Atlantic (even though it is misnamed the East River) hurries by. He loves that open prospect which Broadway cannot give; and he loves, too, that other wonder that eclipses Broadway's soaring towers—the mighty cable-hung bridge high above, stretching far away in the distance; full itself of life and movement, yet brooding eternally over small transitory life of the water's edge.

There are still a few active members of the little South Street world who remember when Brooklyn Bridge was not; many more who came there when it was being built. Such are only too glad to detail the vicissitudes of its construction in picturesque but inimitable vernacular for an enquiring younger generation. But the younger generation is not often enquiring; Brooklyn Bridge was there when they came upon the metropolitan scene and they accept it, in their unimaginative way, as a fixed part of New York coeval almost with Manhattan Island itself. If interested at all in bridges, it is in those newer spans farther up the river, whose "opening day" was marked by special exercises in their respective schools (for are not special exercises always an unforgettable break in rou-

time?). All too infrequently, therefore, do the old-timers get an appreciative audience and more's the pity, for they are well worth encouraging. Pick out some keen-eyed grizzled chap at noon time, wait till he has finished demolishing his half-pie (for no matter what he may have eaten within doors, this much will be eaten on the street) and ask him innocently if he can tell you when Brooklyn Bridge was finished. This will start him. Yes, he does know when it was finished and when it was begun and many things that happened in the interim.

Well does he remember the elder Roebling, who did the first surveying, prepared the first estimates, and started the actual work. Roebling often said that should he not live to finish this daring undertaking his son would be able to carry it on alone. Your narrator, though not actually a sailor, is cousin to those of the sea and smacks of their superstitiousness, so he scents in this speech the father's prescience that the Brooklyn Bridge would be his death; and true enough, within a year as he stood by the spare ferry slip on the Brooklyn side figuring out where the caisson was to be sunk, a barge crashed into the pier, injuring him fatally. Within a fortnight the great bridge builder was dead.

It was a frightful set-back; but time showed that the father had not over-estimated his son's abilities and the work went steadily on. But if Col. Washington Roebling was to have the fame of completing that wondrous mid-air highway that his father had started, he too must pay dear for the honor. One day, it was in December, 1870, a careless workman away down under the river, set a candle on a ledge close below the caulked and pitched roof of the Brooklyn caisson. The roof caught fire and, as all the draught was from within outward, it was burning a long time up through the fifteen-foot roof before anyone discovered it. They had finally to flood the caisson, thus undoing the painful work of months, before they extinguished it; but Washington Roebling in the meanwhile had spent too many frantic hours down there; a half hour after he came up—even before he reached home—he was partially paralyzed. Thenceforth he was an invalid;

but he worked on unflinchingly through years of exposure and anxiety, constructing the Great Bridge.

"But he lived to complete it?" you innocently venture to hope.

Live to complete it? Ay, he lived to go down in the Titanic. Some people, you are told severely, were so interested in the useless society "swells" saved from that ill-fated vessel that they never noticed that the engineer who had built the first bridge, the Great Bridge, went down. Your man of the island's edge has socialistic tendencies. His fine scorn makes you feel very small and mean, but was worth risking nevertheless.

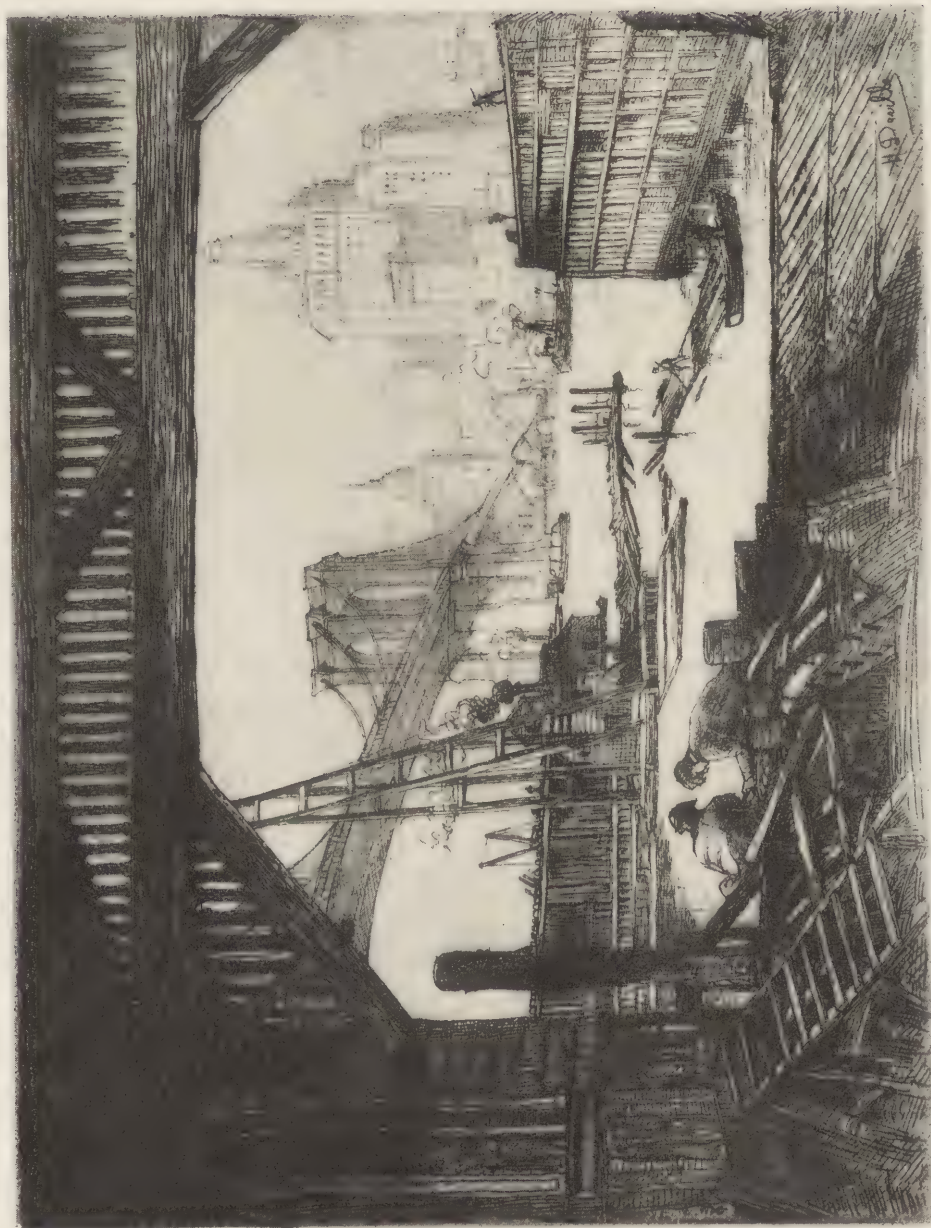
Do you wonder, audibly, how high the bridge is? He is ready with figures. The main span is a hundred and thirty-five feet above the water, and the cable piers run a good distance above this again, as well as nearly eighty feet below water. Considering that there was no end of sewage abominations and ancient tan pits and a sunken dock of generations ago to be removed before the piers could be started, you ought to respect these splendid bits of masonry construction. Look at them rising up there—massive, grim, granite towers, pierced each by two graceful slender pointed arches set against the very heaven itself. Ay, the masonry's the thing, you are told. Other bridges have gone up since—there they are, yonder—strong enough, no doubt, but they don't *look* it as this one does. When you've seen a granite tower like that go up, stone upon stone, you know it is going to last!

And the listener realizes that this simple pie-consumer is merely uttering a world-old truth. Masonry is monumental, as no other expression of the builder's art is; and above all is this true of granite masonry. No steel bridge over the East River makes quite the same appeal. There will always be a deliberate preference for this first-built in the minds of those to whom tradition is a vital factor. Over our rapidly modernizing city of steel its mighty stone towers and approaches send a strange haunting breath of medieval Europe that cannot leave the imagination untouched.

Then, too, there is the appeal of that natural concomitant of masonry archi-



THE LUNCH HOUR UNDER
CLIFF STREET ARCH.



FERRY ALTERATIONS.



THE EAST RIVER.



A GLIMPSE OF NEW YORK.



THE BROOKLYN SIDE.

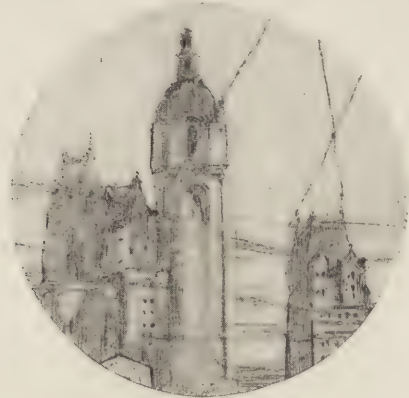


THE GOTHIC ARCH.

ture—the arch; not merely the lofty arches open to the sky, but those down on the street that feature the walls of the long inclined approaches. True, most of these along Frankfort Street were early bricked in to bring the city revenue as fireproof warehouses; but even these have some special weirdness and mystery precisely because they are structural arches of Brooklyn Bridge. Where Cliff Street passes under, or William Street, the imagination is straightway invited far afield by that damp vault-like chill that belongs to remote romantic places. In summer such spots are the friend of tired carters and horses who spend the noon hour in their cool shade, but in winter they are the enemy of those who must face the icy eddies and gusts that scutter through. In winter, too, of an early evening twilight one sees here, all too often, little Italian and Greek children from nearby Cherry Street bent over a huge load of empty wooden boxes begged from some arch warehouse, tying them securely together there in the murky gloom preparatory to dragging them home for kindling. Such groups seem to put the feeling of the early night-fall and of the cavernous arch into a sad European picture.

But from up above on the monster bridge all small and separate pictures are

lost. From there the whole island city can be seen—distinctly a New World city, since the very essence of the mass is steel. Only immediately below where it ravel out to an edge at the base of the mighty stone tower does steel *not* dominate. Here is that openness which one leaves the canyons of Broadway to seek. The little gable-roofed houses are set well back from the water and firmly planted as if sure of warding off the encroachment of the skyscraper for many years to come. They hold their own, humble and brown, for the distance of several streets back from the shore; then the great monsters rise white and glistening new behind them, stopping at different heights just short of the sky. Even the water on the bridge side of Manhattan Island seems somehow more expressive of olden times than does the Hudson water-front. The scores of ferry boats darting back and forth like a shuttle are absent, and only a few slow lumbering ones ply their trade in spite of the bridge; absent too, are the monster liners of the western side. "The liner she's a lady," so runs Kipling's verse, and a lady liner of the ultra-modern sort is more at home in the shadow of the steel Whitehall or the West Street Building than under the venerable, traditional masonry of Brooklyn Bridge.





BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART II. Secular Buildings

AT the very beginning of building activity in this country we must expect an uncouth quality in secular buildings as well as in churches. The first duty was to repel the Indian, to render the earth productive, to establish mutual protection and a rudimentary mode of government. During this time of beginnings the churchly and secular functions were often combined, as has been indicated in a previous article, in the type of structure known as the meeting house. This combination operated to the advantage of the church building, owing to the general sanction given to the importance of religion in Colonial life; while the public or governmental or other secular function, which always develops more slowly in a quasi-freethinking community, was temporarily forced into the background. Even when our early architecture has found its channel, in so far as any purely formative type of art may be said to follow a set course, its public buildings generally considered are not important. The first noteworthy results in this field must be looked for as a result of the growing Federal and civic conscience that followed the establishment of the Union;

in other words, during the Republican period. But the public structures of the new-found Republic were restricted to the requirements of a few large cities. The National Capitol building was necessarily a transitory conception for a number of years, since the very site of the capital city was in discussion, from the standpoint of party politics as much as from that of economic and artistic availability. In the former connection the prospective national centre was literally a shuttlecock, as any record of the first administrations will attest.

The church edifice holds pre-eminence in point of time in the architectural growth of this country. It is followed by the public building, smaller, less expensive, satisfying only immediate needs, architecturally much less pretentious than the church, and always a more or less tardy growth, if for no other reason than that there was demand for but few buildings of fine character in the earliest times. Third to develop was the dwelling house. From this it should appear, then, that the currents of domestic and of public architecture, although constantly present, were subdued; they have with few exceptions

nothing of importance to offer in design for some time. Utility characterizes the earlier secular buildings of all types; there were even vestiges of a Colonial commercial architecture, of negligible value to be sure in point of its contribution to the history of style development, but sternly useful, as were the first meeting houses and the first dwellings.

Our formative public architecture, not to mention the very few examples of secular architecture of other varieties, exclusive of residences of later developed type, has received but slight attention at the hands of the writers. Of course, the general works already referred to at the beginning of this series of papers will offer a certain amount of material, especially in the way of plates, and always restricted to a limited number of chosen buildings; notable are a few examples in *The Georgian Period*. We sorely need, however, and should welcome, a general volume on the early secular buildings, similar to that by Mr. Embury on *Early American Churches*, not too large, but well illustrated, surely containing plans and sections wherever feasible. This might readily be an inclusive work, for the structures concerned are not numerous; it should be provided with a bibliography and a definite chronological table, in so far as one man's labor may be depended upon to gather accurate information as to the chronology of these fore-runners of our public architecture. The volume would logically assume the role of an entering wedge into a field not yet exploited, nor even thoroughly explored. What is more, it would fill a dire need in the study of architectural history in this country. In the second place, detailed works upon individual buildings would follow closely upon the heels of this first general work. There should be thorough and thoughtful sets of plates, with a minimum of text, always with a local or subject bibliography and chronological tabulation. The plates should be considered on the basis of a permanent record, as works of final reference, and should therefore contain all necessary information in the form of accurate measurements for all exteriors, plans and any useful sections. Besides, these plates should offer details of doors, windows, balus-

trades, mouldings, orders; while in the case of especially interesting examples, larger scale details should be given of special motives, occasionally sections of stairways, or entrance porches. Finally, and of considerable historical interest, there should be drawings—either isometric or in perspective—of certain features of construction, as again of stairways or mantels or roof trusses. The buildings being so few in number, the work involved would not be of prohibitive quantity or extent and the undertaking need not require excessive attention from any one person or group, if it be judiciously disposed or apportioned according to the localities in which the few remaining buildings are situated. It would seem that civic pride in the Eastern States should demand that such monuments be suitably described, measured, drawn and otherwise reproduced, not only for purposes of record, but also for those of study. The great drawback in the detailed study of European civic monuments has often been the defection of adequate records of this sort. There is, then, in this country every opportunity of preserving an architectural record of beginnings practically intact. Assuredly each day should add to this record, before the majority of the buildings have been condemned to make space for new ones on the same sites, or have been restored out of semblance to original forms, hopelessly altered to suit modern purposes, or even destroyed for commercial reasons. To emphasize this matter further let us briefly scan the field of our public and other secular architecture during the time under discussion.

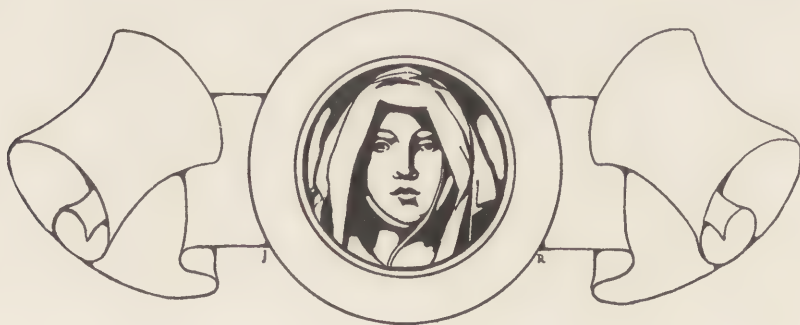
At the outset we must allow for a number of buildings which were of wood, slightly built, which rapidly gave place to more elaborate structures, sometimes of more permanent material, or else were of such unpretentious character as to be better classified as barns or sheds. Many such buildings have been mentioned, but no architectural treatment was granted them by the writers for the reason that they were occupied usually with a history or local description. What is more, the historian relies in great measure upon State house records, personal diaries, and similar chronicles in which the most ac-

curate descriptions are invariably indefinite when they are not lacking entirely. However, we find statements about the existence of jails, armories, theatres and the like in more modern annals of old cities. Thus, by way of illustration, we might mention David Ridgeley's *Annals of Annapolis*, Joel Munsell's *Annals of Albany*, Charles W. Brewster's *Rambles about Portsmouth*, Col. J. T. Scharf's *Chronicles of Baltimore*, or Bishop Meade's *Old Churches, Ministers and Families of Virginia*. Such references as these works may offer can only be of use in compiling the historical data concerning any buildings that no longer exist, although they are occasionally of service in the conjectural restoration of a plan from a wordy description, in which figure such inadequate terms as "large room to right of hall" and "office entered through middle room in lower part of the edifice." Certain works of this kind have appeared occasionally, however, in the guise of faithful compilations of excerpts from contemporary newspapers; these are apt to be fairly accurate, and among them may be mentioned Elihu S. Riley's *Ancient City; a History of Annapolis*.

In this connection also we should give due credit to volumes like those of Lyman P. Powell, who has published three, entitled, *Historic Towns of the Southern*

States, Historic Towns of the Middle States, and Historic Towns of New England. These volumes are very useful for the reason that they partake of the guide book character, which demands accuracy and a thorough acquaintance with the monuments in question. There are other works of similar nature which the student of Colonial architecture, especially of secular buildings, must call into requisition; these may be included under the general title of regional works. The series by Mr. Powell would be the most inclusive of these; but individual cities have at times issued descriptive books concerning their own histories and buildings, and when such publications contain series of articles on various aspects of the civic life of the community concerned, they may generally be relied upon for purposes of study. Unfortunately cities have not availed themselves of this means of recording and making known the existence of architectural landmarks within their limits. As an example of this type of publication, although not produced as a splendid volume by any means, might be cited the board covered pamphlet entitled *The Portsmouth Book*, which contains a series of papers on various parts of Portsmouth, its churches and other buildings, as well as an article by R. Clipston Sturgis on the architecture of the city.

(To be continued.)





The Schenley Park Approach Competition.

There is a growing impression that competitions for the solution of landscape and architectural problems are wasteful and inadequate. Unfortunately this feeling is strengthened as a result of the recent Schenley Park competition. This competition was for a new approach to Schenley Park, Pittsburgh, and was held under the auspices of the City Planning Commission and the Art Commission of that city. The area involved is adjacent to the Carnegie Library and the Forbes Baseball Park. It covers an area of about twenty acres and, in its present state, consists largely of a deep ravine, which the park approach crosses by means of a stone arch bridge.

The problem was essentially a traffic study for providing an adequate approach to the park and the selection of a site for the Schenley Memorial Fountain, a stone sculptured group surmounting a basin sixty feet in diameter. The neighboring buildings affected but slightly the nature of the plan. The solution of the problem, therefore, was controlled largely by the existing features, such as adjoining streets and boulevards, Bellefield Bridge and the expansive view of the park and outlying districts of the city to the south.

The program was carefully drawn, and forty-five competitors submitted designs, each set of plans consisting of a general plan rendered in black and white wash and a skeleton plan, both at a scale of forty feet to the inch, besides a key map at a scale of three hundred feet to the inch. Nine hundred dollars was awarded in prizes to the three best plans as selected by the jury. The jury for the award of prizes was composed of Henry Hornbostel, architect; George S. Davison, civil engineer, and Berthold Frosch, landscape architect.

The plan prepared by Horace W. Sellers

and H. Barthol Register, architects, of Philadelphia, was awarded first prize; Raymond M. Hood, architect, of New York, was given second place, and Arthur F. Brinckerhoff, landscape architect, of New York, was awarded third prize.

The plans rated first and second solve the problem alike, being almost identical in the disposition of the essential features. Both are rigidly formal with arbitrary axis lines located alike. The third plan gives first consideration to traffic regulation and the placing of the Schenley Memorial Fountain on center with Grant Boulevard, the principal approach street to the park. Unnecessary paved areas are eliminated and the open spaces given largely to lawn area. Allowance is also made for the naturally beautiful views to the south, which quite properly should be considered in a design of this character.

The report of the jury read in part as follows: "We have given careful consideration to the submitted designs and have, by majority vote, assigned designs Nos. 4, 1 and 27 to, respectively, first, second and third place.

"As between designs Nos. 4 and 1 the jury is unanimous in giving preference to No. 4. However, a minority report, embodied herewith, is submitted as expressing the belief of one of the jurors that design No. 27 should be given preference in the award over Nos. 4 and 1.

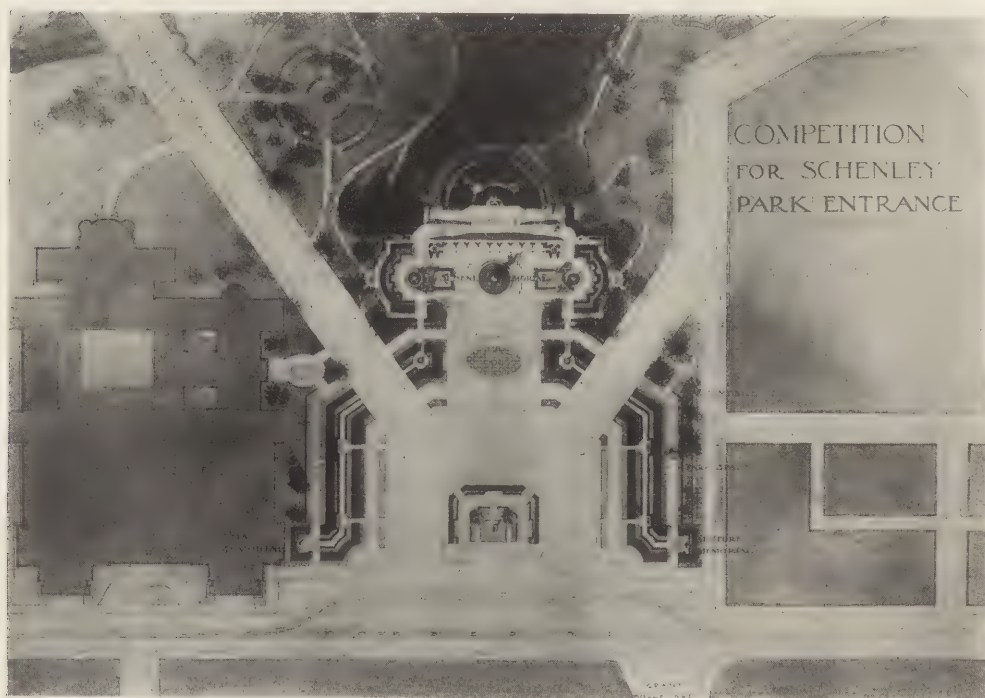
"The submitted plans were generally of two types, one being the more impressive formal or 'plaza' scheme, with the lines of Forbes Street and Carnegie Institute controlling, the other being informal and consisting of the projection of Grant Boulevard through the territory and treated with little emphasis at the point where this extension enters the area to be planned."

Commenting upon the award of the jury Mr. Charles Downing Lay writes in the July number of "Landscape Architecture":

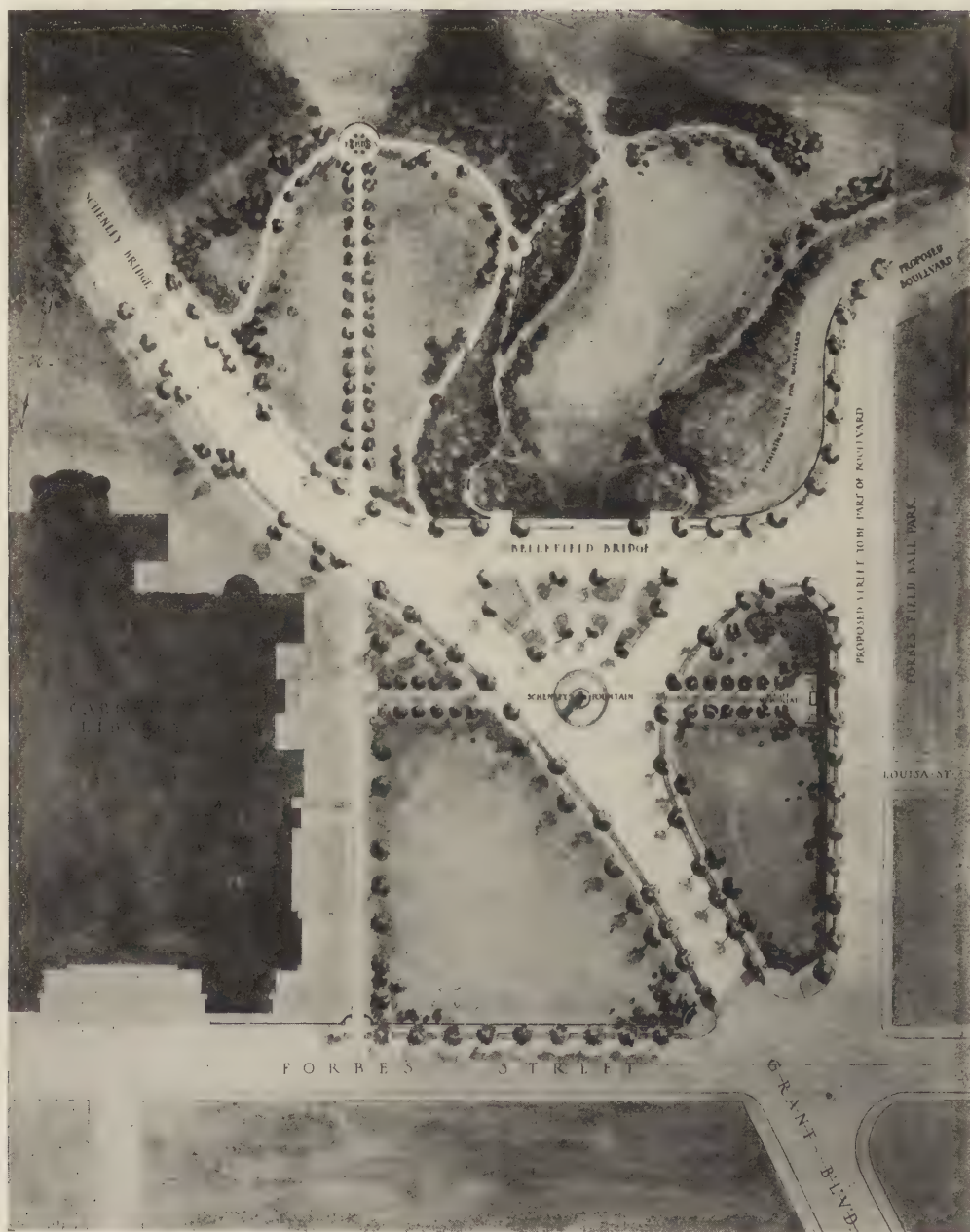
"The first two plans are similar in char-



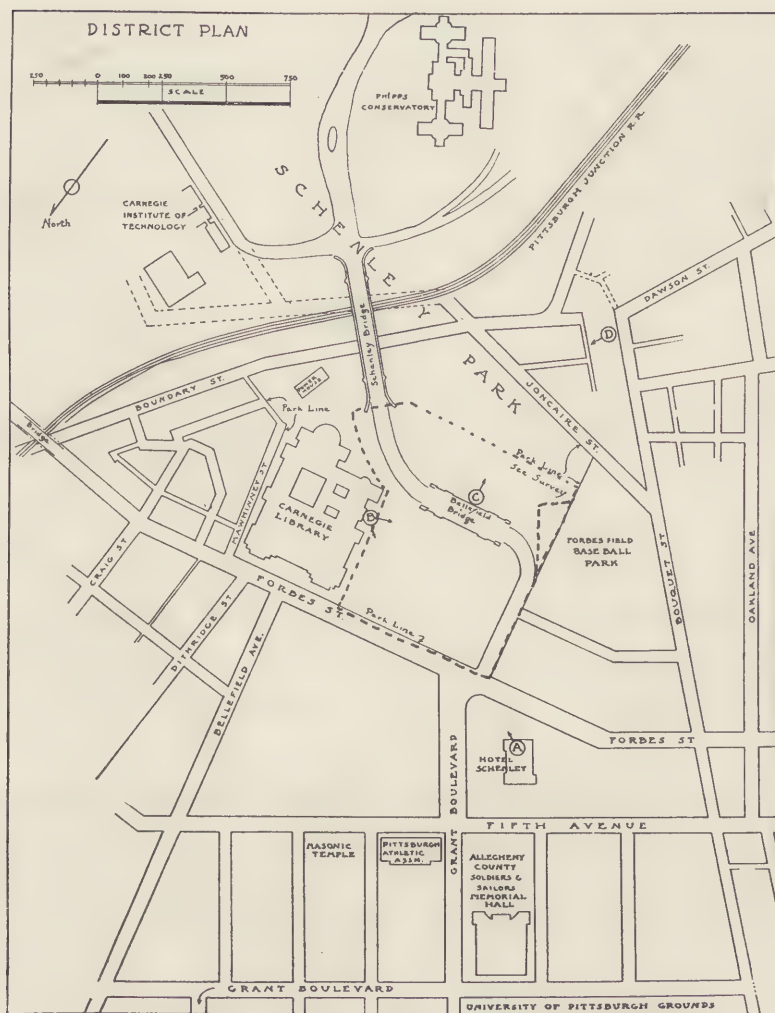
FIRST AWARD—DESIGN BY HORACE W. SELLERS AND H. BARTHOL REGISTER.



SECOND AWARD—DESIGN BY RAYMOND M. HOOD.



THIRD AWARD IN COMPETITION
FOR SCHENLEY PARK ENTRANCE—
DESIGN BY A. F. BRINCKERHOFF.



DISTRICT PLAN, FROM PROGRAM OF COMPETITION FOR SCHENLEY PARK ENTRANCE.

acter and suggest very strongly the solution of the problem proposed by Mr. F. L. Olmsted (page 104, 'Pittsburgh: Main Thoroughfares and the Downtown District,' 1910). Mr. Olmsted's plan, however, was based on a revision of the street system, which is obviously desirable, yet which the competitors were not allowed to consider in the preparation of their plans. Without this change in the street system, these plans are either of them too grandiose for the situation; for it must not be forgotten, in admiration of the skill of the rendering and the beauty of the design in black and white, that Grant Boulevard, the main thoroughfare of the park, enters this large

plaza from the corner, and that actually the only people who will see or enjoy its symmetry are those who may live in some apartment house to be built on the other side of Forbes Street.

"In both these plans there is evident a common tendency to disregard scale and to forget the pedestrian. This was recognized by the jury, who suggested a reduction and shifting the axis farther to the west, nearer Grant Boulevard. In the Sellers-Register plan, for instance, the plaza is roughly 245 by 420 feet, or 2.3 acres, all roadway, with, we will suppose, a pavement of macadam or asphalt. To cross it at the narrowest place, one must walk a

whole city block in the glare of the sun and amid the confusion of vehicles. Or will it be roped off, as we do in New York, confining the traffic to small areas? If this is likely to be done, why not do it now, with turf or foliage areas, permanently bringing the scheme in scale with ordinary human beings?"

After reading the program and report of the competition, it becomes evident that the jury favored a formal design but were unable to find an adequate plan embodying the formal plaza type in any of the forty-five exhibits. The existing controlling conditions of the problem do not lend themselves to the creation of a Beaux-Arts type of plan, as the competition demonstrated.

In designing a building it is quite feasible to say that we will have the French Renaissance or the Gothic type of structure and to obtain a satisfactory result, usually with perfect propriety and good taste. Successful landscape design, however, calls for a rational treatment which often precludes a rigid adherence to a type or style. In order to solve a problem in landscape architecture, existing conditions, and especially those which cannot be changed, must be considered. This calls for judgment, pliability and a keen sense of proportion, keeping always in mind the ultimate practical uses and also the effect that the finished work will have upon the people who are to see and use it.

A landscape design should not only possess beauty, dignity and symmetry, but should provide frankly and adequately for the use and enjoyment of the people. Nationality, location and climate, which have such an important influence upon human activities and habits, must be seriously taken into consideration. The formal plazas and piazzas which are so impressive and admirable in Spain and in Italy are so because of the architectural harmony, climate and the civilization peculiar to those countries. Similar schemes would be glaringly out of place if transplanted to a modern city of northern United States.

Assuming, as we have done, that the award was dictated by a preference on the part of the jury for a design of the formal type, this preference constituted a factor which was not expressed in the program. The presence of unexpressed factors is one of the chief defects of competitions as at present conducted.

Dignity, economy of construction and adequate provision for traffic were factors called for in the program. Judged on these points, Mr. Brinckerhoff's plan, the least

formal of the three winning designs, has more merit than the report of the jury credits it with.

CARL F. PILAT.

The Augsburg Picture Gallery.

In his articles in the August and September issues of *The Architectural Record* Dr. Benjamin Ives Gilman, of the Boston Art Museum, points out the fallacy of the general use of top

light in museums, and the superiority of light from windows set high in the walls. The greatest difficulty in extending the use of this method, as he remarks, is the lack of precedents. It may therefore be of interest to gather examples where such lighting has proven itself advantageous.

One such example, which seems comparatively little known, is the Royal Picture Gallery at Augsburg, in Bavaria. The adoption of this type of lighting seems to have been due, not to an actual preference, but to its greater ease of installation, as the building was not erected for the uses of a museum, being the former church of St. Catharine, a structure of the Renaissance period, with a double nave but without aisles.

The museum hall is about forty-five feet wide, fifty feet high, and somewhat over two hundred feet long. It is vaulted in square bays, the vaults being supported by a central range of columns, spaced some twenty-two feet apart. Both the vaulting and the upper portion of the walls are whitewashed, the lower part of the walls, to a height of about eighteen feet, being of a darker color to form a background for the pictures. The hall is divided into three rooms by cross-walls, pierced only by small doors, and in addition a low screen crosses the hall at each column, with a space of seven feet for a passage at each end. The smaller pictures of the collection are hung on these screens, the larger ones on the side-walls, where the distance from which they can be seen is twice as great.

The windows on the south side of the church have been blocked up, and those on the north glazed with clear glass. There is one window in each bay, seven feet wide by twenty-two feet high, the sills being twenty-two feet from the floor. The lighting, being entirely from the north, and further diffused by reflection from the white walls and vaults, is remarkably satisfactory, there being an abundance of light throughout, with practically no glare or reflections.

On the south side of the main building a few small chapels have been used for additional hanging space. Here also the lower part of the windows has been blocked up, but since the light is from the south the result is somewhat less satisfactory.

This is, of course, by no means the only case of a museum installed in an old church. The Musée Lapidaire at Arles, the Historical Museum at Basel, the main gallery of the Museum at Toulouse, may also be cited as examples, but in no case have the proportions of the structure produced so good a result, one which, in fact, seems almost ideal so far as lighting is concerned.

JOHN J. KLABER.

A Simple House Front.

A few weeks ago the writer wandered along Fifth Avenue and through the cross streets from Fifty-ninth Street to Seventy-second Street, trying to find the ideal house façade of from thirty-five to forty-five feet in width in the centre of a block. It was surprising how many there were which were almost very good and how few that were thoroughly satisfying.

The house at 12 East Sixty-ninth Street, built for James W. Ellsworth by W. W. Bosworth, stood out notably among the various buildings in its simplicity bordering almost upon nakedness, but notwithstanding, or perhaps because of this quality, it possesses a gentlemanly character which is not so distinctly evident in some of its more ornate neighbors. There is something a little bit tight about the square balconies at the second story windows. It is apparent that these windows extend to the floor and that the balcony is necessary as a protection, but one does not understand why they were not either placed between jambs or else given a greater projection so as to accommodate plants and potted trees, or at any rate to give one the feeling that such decorations could be accommodated. Just now one feels it borne in on one that the balcony is not large enough to stand on, nor even to give room for pots, and that the slight projection does not add to the beauty of the composition.

The doorway and its approach are designed in fine taste. They are the last word in simplicity, and one cannot help feeling that the owner of such an entranceway must have long traditions of Boylston Street or of Washington Square.

The New Corn Exchange Branch Bank.

The Eighty-sixth Street Branch of the Corn Exchange Bank, in New York, H. T. Lindeberg, architect, is a very delightful essay in bank architecture. Situated, as the building is, in the middle of a block in a residential district of the town, it has properly something less of monumentality and something more of the domestic feeling than is usually found in a well designed bank building in the financial district, but nevertheless the design is big, simple and appropriate to an important financial institution. It combines simplicity, interest, refinement and sentiment to a rare degree. It is particularly gratifying to find worked into the design emblems suggestive of the name of the bank. Brains as a decoration add considerably to the merit of knowledge. Mr. Lindeberg never feels it necessary to adhere strictly to architectural precedent, but to our more conservative minds, the design would have been bettered by giving a real base to the pilasters or at any rate a rudimentary basement to the whole composition.

The Alhambra.

The Spanish architect, Cendoya, has instituted careful investigations in the archives at Granada concerning the Hispano palace—Moresque citadel—in order to insure the absolute correctness of his restoration. Interesting facts have come to light as the result of his search. Among other things he has discovered that the site of the present buildings, which were begun in 1248, bears traces of four successive palaces, each including mosque and harem courts, and, according to a German contemporary, we shall now learn the true history of the Forty Towers.



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FRONT DOORWAY — RESIDENCE OF F. E.
DRURY, ESQ., CLEVELAND, OHIO. FRANK B.
MEADE AND JAMES M. HAMILTON, ARCHITECTS.

THE ARCHITECTURAL RECORD

VOLUME XXXVIII



NUMBER VI

DECEMBER, 1915

The RESIDENCE of F. E. DRURY, ESQ.
CLEVELAND, OHIO

FRANK B. MEADE and JAMES M. HAMILTON
ARCHITECTS

BY I. T. FRARY

A GRATIFYING phase of the history of American architecture is to be found in the rapid development made in its residential work. This is most readily appreciated by following its progress as recorded on the illustrated pages of the architectural magazines. A casual survey of the early volumes of *The Architectural Record* reveals a surprising lack of illustrations and text relating to the American residence, but a glance at the examples given makes this scarcity readily understood.

Judging from the photographs and from personal memories of the houses of two or three decades ago, one comes to the conclusion that the clumsier and uglier was their detail, the more uncomfortable their furniture and the more forbidding their decorations, just that much more unassailable was the social position of their owners. Their plans were un-

studied, showing but little regard for convenience, for impressiveness of vista, or unity of effect; their style was derived from nothing and suggestive of the same, and each room was treated as a unit, regardless of its effect upon the house as a whole. It is hardly necessary to call attention to the improvement found in the best work of today. It is too evident and too well known to those who are interested and every architectural publication bears witness to it. A study of the plans, the details, the furnishings and the physical conveniences shows a knowledge, skill and taste which were undreamed of twenty years ago.

An excellent example of the better class of work which is being done today is found in the residence of Mr. F. E. Drury, of Cleveland, Ohio, the architects of which are Mr. Frank B. Meade and Mr. James M. Hamilton, who have been

responsible for many of the best residences in and around Cleveland. Designed for the accommodation of a small family, which would occupy it only during the winter season, it was to be sufficiently commodious to meet the requirements of any and all social functions and yet to be pre-eminently homelike and livable; not of the type which suggests a fancy stage setting in which the actors move drearily between the acts. To be located upon Euclid Avenue, which, like many another avenue of homes, has been obliged to give way to the demands of business, one of the first problems to be solved was that of securing the maximum of privacy. The site being a large corner lot, it was decided to place the house well back, thereby not only increasing the sense of privacy to the inmates, but also giving the house itself the setting of lawn, trees and shrubbery which is so desirable to one of its character.

The front of both house and lot has been developed in a rather formal manner, no approach being afforded from gate to doorway, both of which are permanently closed. The lot is surrounded by a brick wall surmounted by a stone balustrade. One reaches the house through a spacious, well planted court at the rear, which is entered directly from the side street, and also by means of a driveway from the front, which, following the west lot line, sweeps through an archway under the service wing into the court. This arrangement of driveways provides an efficient circulation for vehicles, especially desirable on the occasion of large social functions.

The comparative severity of the façade gives way in the courtyard to a more intimate and free treatment in half timber. A restrained use of carving has been made in the timber work and here, as elsewhere throughout the house, the carving has been executed in the crude, vigorous manner characteristic of the Tudor period.

The service wing includes the garage and extending as it does to the rear of the lot, effectually screens from view a number of uninteresting buildings which adjoin it. The winding drives, the bits

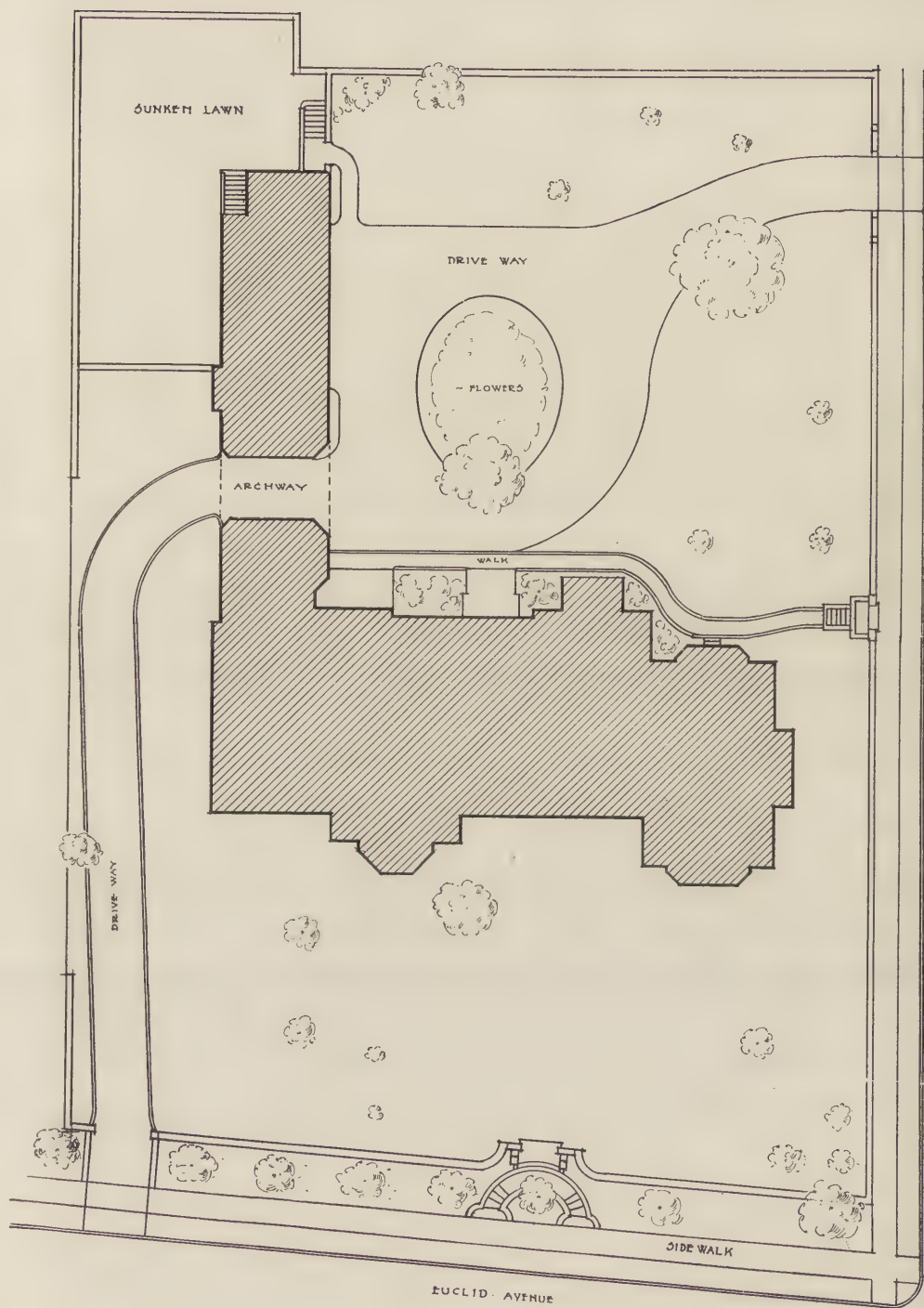
of lawn, the masses of evergreen planting, the old oak tree so painstakingly preserved, the vista through the archway and above all the interesting detail of the house itself, all combine to make this court one of the most effective features of the place.

The main entrance to the house is through the porte-cochere and, although at the rear, is the logical entrance, as it opens into the stair hall, thus preserving the privacy of the main hall. The rooms on the first floor are all of exceptional size and open together so as to give extensive vistas, yet in spite of this and of the richness of its appointments, the house does not give the impression of a show place. Instead, it seems pervaded by that indefinable atmosphere of comfort and hospitality which makes even the casual caller feel at home.

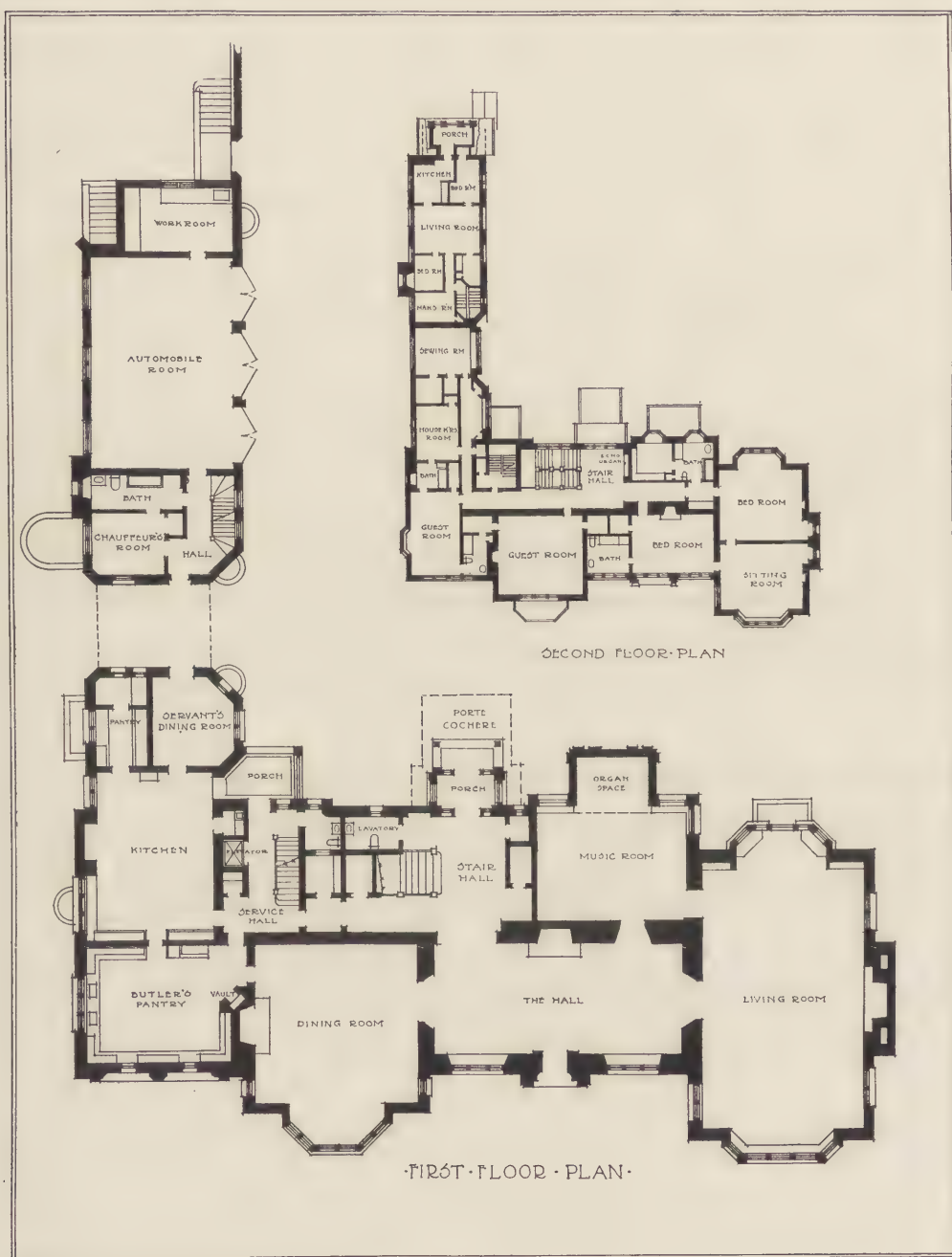
The house as a whole is carried out in the Elizabethan style, but in the furnishings considerable latitude has been taken and to this freedom from stylistic restraint is probably due much of its sense of livableness. A study of the old country houses of England has exerted a strong influence in leading people away from the idea of furnishing and decorating in strict conformity to style. Those old houses, in which many generations of cultured occupants have left their impress, represent the best that the Anglo-Saxon has done in home making and a study of them makes obvious the fact that much of their charm is due to the little alterations and additions which have relieved their stiffness and severity without detracting from their dignity.

That the lesson derived from these interesting legacies from the past has been put to practical use is apparent in some of the most successful residential work of today, but it is a lesson which must be thoroughly studied, for when the application of it is undertaken by an unskilled hand, the result is most likely to be a hodge-podge.

The main hall of the Drury house stretches across the front between the living room and the dining room and is finished with a high oak wainscot and stucco frieze, true to the period; but in the furnishings, although in part con-



LAYOUT OF GROUNDS—RESIDENCE OF F. E. DRURY, ESQ., CLEVELAND, OHIO. FRANK B. MEADE AND JAMES M. HAMILTON, ARCHITECTS.



FIRST AND SECOND FLOOR PLANS—RESIDENCE OF
F. E. DRURY, ESQ., CLEVELAND, OHIO. FRANK B.
MEADE AND JAMES M. HAMILTON, ARCHITECTS.



FRONT VIEW—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.



GENERAL VIEW—RESIDENCE OF F. E. DRURY, ESQ., CLEVELAND, OHIO.
Frank B. Meade and James M. Hamilton, Architects.



GATEWAY AND COURT—RESIDENCE OF F. E. DRURY, ESQ., CLEVELAND, OHIO.
Frank B. Meade and James M. Hamilton, Architects.



STAIR HALL—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.



MAIN HALL—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.



LIVING ROOM, LOOKING TOWARD HALL AND MUSIC ROOM
—RESIDENCE OF F. E. DRURY, ESQ., CLEVELAND, OHIO.
FRANK B. MEADE AND JAMES M. HAMILTON, ARCHITECTS.



MUSIC ROOM—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.



SITTING ROOM—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE,
AND JAMES M. HAMILTON, ARCHITECTS.



DINING ROOM—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.



DINING ROOM—RESIDENCE OF F. E. DRURY,
ESQ., CLEVELAND, OHIO. FRANK B. MEADE
AND JAMES M. HAMILTON, ARCHITECTS.

forming to the room, a distinct Chinese note has been introduced. The window cornices are finished in red and gold lacquer to match two old standards which flank the front door, while a settle and two small tables in natural teakwood are grouped about the fireplace. Draperies in harmony with the lacquer colorings and rugs woven to Chinese designs give the final touch.

In the living room an even greater range of styles is apparent and so rich are the materials used and so strong is the color scheme that, were it not for the predominance of English forms, the plain color in wall hanging and draperies, the masses of black in rug and furniture covering and the sombre tones of oak and walnut, the room might easily have resulted in a riot.

The music room, which is the only room on the first floor having light enameled woodwork, has a high paneled wainscot, above which is painted a decorative landscape, the prevailing tones of which are soft, deep greys. A pipe organ occupies a space built out from the rear of the room and is concealed by a screen of simple design. The console from which it is played stands against the wall of the living room between the openings to music room and hall, thus removing the performer from too close proximity to the instrument.

The dining-room would be the natural place to carry out a scheme of pure period furnishings and here indeed the furniture is true to the traditions of the period of William and Mary, yet considerable modification of detail is apparent in the different pieces, thus avoiding the cut-and-dried effect of the regulation "set." The carved screen before the pantry door is, of course, an anachronism, yet one that is altogether pleasing, or will be when the temporary fabric is replaced by some interesting bit of old tapestry or embroidery.

The butler's pantry and kitchen have every facility for efficient culinary service. In addition to the large range in the kitchen, an electric cooking table in the butler's pantry is provided with every form of cooking appliance. China cupboards with glass doors line the walls

and pastry tables, carving tables, sinks, drawers and cupboards provide an equipment capable of taking care of any demands that may be made upon it. A vault of generous proportions insures safety to the silverware and the flat silver trays of the sideboard are fitted to slides within it, thus facilitating their transfer from dining room to storage.

There is no library in the house, but, instead, a stack of bookshelves behind leaded glass doors fills one long wall of the second floor hall, close beside the door leading to the sitting room. As this room together with the two adjoining bedrooms constitute the owner's suite and is the natural place for reading and writing, the books are nearly as accessible for reference as if housed in a room set apart as a study or library.

The four main bedrooms are carried out in various English styles. In one the furniture is of rosewood and is executed in the spirit of Chippendale's French period. Another is furnished in oak of the Jacobean period. The daintiest of the rooms has furniture of light Italian walnut on which the veneers are laid in panels, which are outlined with narrow bands of rosewood. The effect of the rich wood is further enhanced by a restrained use of painted decoration in Celadon green.

The fourth bedroom is extremely simple, having mahogany four-posters with other pieces to match and depends largely for its decorative effect on the quaint little chintz patterns used for wall hangings and draperies.

To the critical eye, there may be apparent some things about this house that might have been better done or might better have been left undone—who ever saw anything that could not be criticised or improved?—but, taken as a whole, it has stood the test of occupancy.

Its plan is simple and convenient; its detail is consistent with the style to which it conforms; it is adapted to the requirements for which it was built; its general effect is pleasing to the eye, and above all it has a homelike effect. These seem to be the great things demanded in a home, and if they are, this one certainly measures up to the standard.

The ADDITION TO THE NEW YORK HARVARD CLUB McKIM, MEAD *and* WHITE, ARCHITECTS

By JOHN TAYLOR BOYD, JR.

ARCHITECTS are aware that any member of their profession who undertakes to plan extensive additions to an already completed building has set himself a difficult task. Hampered as he is by conditions established through the solution of other problems than his own, he is forced to compromise at every turn. In plan, he must work to the system of communication—elevators, stairs, corridors—already in place. In section, he must abide by conditions of story heights already established; and in elevation, he is obliged to conform to the scheme of architectural motives and window openings of the old building. Indeed, he is lucky if his compromises do not degenerate into mere makeshifts.

Fortunately, there are compensations that offset these drawbacks. The very necessary irregularity of the work may provide an interest that a rigid following of academic teachings of exact symmetry, of T-square and triangle balance, might lack; and the informal point of view forced on the architect may result in much charm and individuality. Unlooked for contrasts of scale, unexpected vistas and pleasing oddities of plan, sudden changes in section, will often more than compensate for the lack of symmetry *en axe*. Indeed, if the problem be skillfully handled, the result may not only be successful, but even more, may bear the precious imprint of personality.

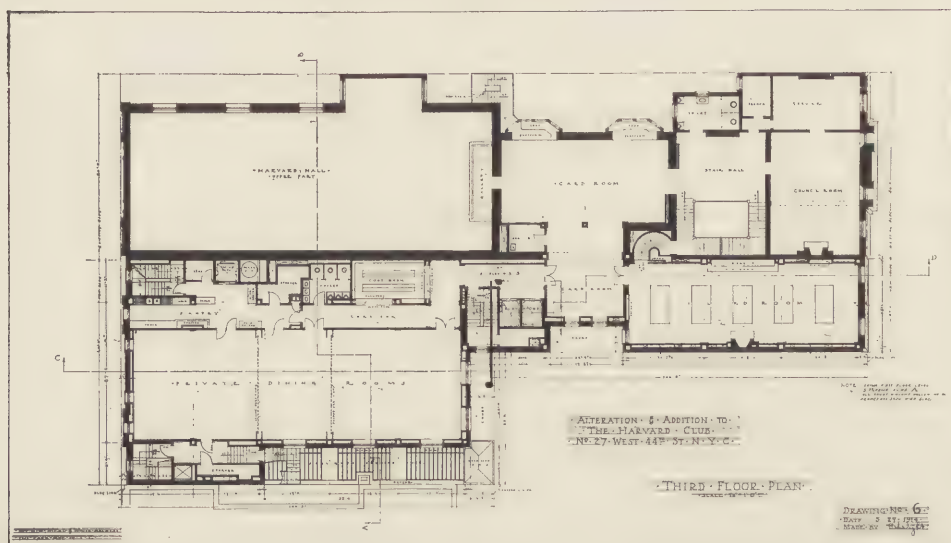
It is in plan principally that these advantages of alteration work lie. Such are large rooms entered on the corner, alcoves or bays shedding light in dark corners, unexpected shapes of rooms, odd corridors and flights of stairs. It is because of like features that the old medieval plans are so valued, and it is to be remembered that they, too, were often the result of growth in several stages, rather than the sudden creation of a complete unit.

The new additions to the Harvard Club of New York, just finished, offer an interesting example of the ideas outlined above. In this case, moreover, the situation was further complicated because these were the second set of such additions carried out by the club since it moved to the present site on Forty-fourth Street.

The first building was a charming little bit of domestic architecture, completed in 1894, which, with its low three-storied front, was regarded as one of the minor masterpieces of Mr. Charles W. McKim. In 1905 the club increased its quarters, the most notable addition being the well-known Harvard Hall, a great three-storied hall extending to Forty-fifth Street. With beamed ceiling, high oak paneled wainscot, and stone wall above, the room was originally intended for a lounging room. This function it now fulfills, though heretofore it has served as a dining hall.

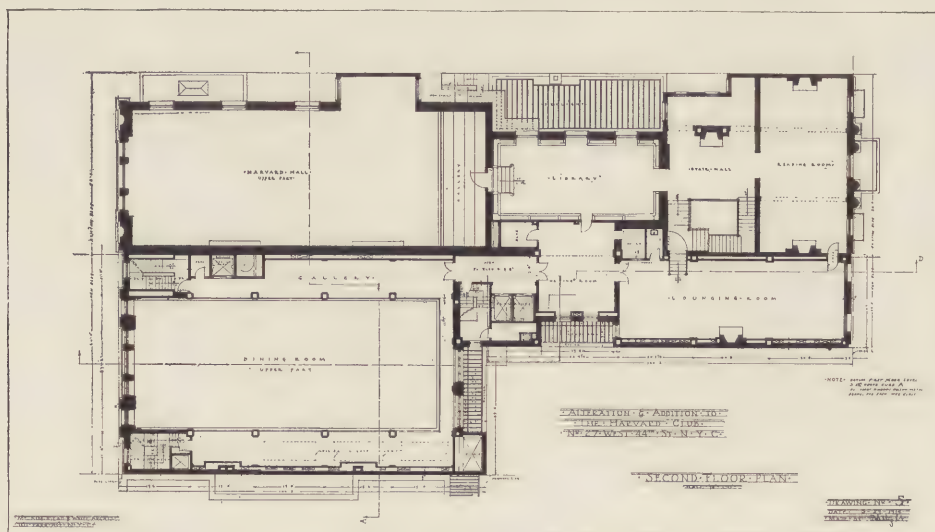
The second enlargement of the building practically doubles the facilities of the club as they existed after the first enlargement, and provides, in addition, a swimming tank. The extension occupies two lots on Forty-fifth Street and one on Forty-fourth Street, adjoining the club.

Through this change, the basement was given over almost entirely to the kitchen, service and administrative offices. On the main floor the offices, coatrooms, toilet, bar, etc., are moved to one side in the new addition, with a subsidiary corridor serving them. Adjacent an elevator and service stairs are provided. The lobby is increased in size, forming an ample foregathering space, or café, one story high, with paneled walls and piers. On this level, to the rear, on Forty-fourth Street, is a great new dining hall, extending up two stories, covering larger floor space than the old Harvard Hall, and with a gallery around it. Right here is one of



the picturesque features of the plan. The great room is entered on the corner, both from a corner of Harvard Hall and from a corner of the café. From the plan it will be noticed that the architects have maintained a diagonal vista through this café, and through the service corridor, into the new dining hall. Thus, standing at the entrance to the café, one may glance into both Harvard Hall and the new dining hall—a striking instance of how the limitations of the situation have been not only surmounted but actually turned to advantage.

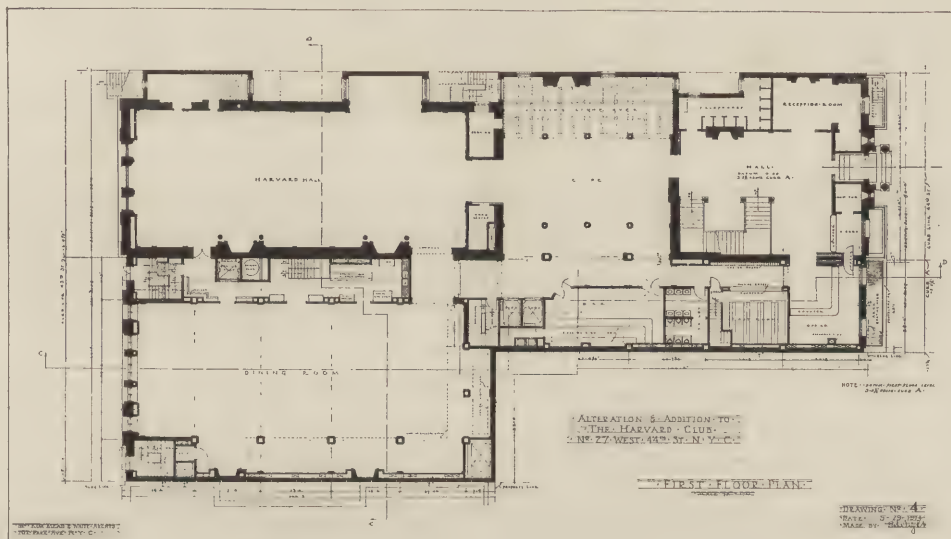
On the second floor we find an addition to the library and a reading room which the club will complete later. Above, on the third floor, there are a simple billiard room, a large room for meetings, class dinners, etc., over the dining room, and an interesting addition to the card room. In this card room again, we notice another clever bit of planning. It has been made T-shaped in plan, by opening a large square bay into the new addition. Besides adding more light, the room is made more attractive through the unusual shape resulting from this change.



With the fourth and fifth floors given over to bedrooms, the sixth floor to dressing, locker rooms, barber shops, etc., for the swimming pool and squash courts, we complete the description of the plan.

In elevation, this plan has been worked out with a distinct success. It would have been too bad to destroy the unity of the perfect little three-story Forty-fourth Street front by trying to blend it with the narrow six-story tower of the new addition. Consequently the architects wisely decided to make the two units almost separate, treating the tower simply, in order

tage of light and air. It is this fine situation, as well as its interesting arrangement and architectural treatment, that makes the Harvard Club plunge so successful. The average pool in clubs, gymnasiums, and Y. M. C. A. buildings is usually subterranean, ill lighted and ventilated, and certainly most uninteresting architecturally. It is usually as utilitarian as the barber shop. But the Harvard Club pool, while extremely simple, impresses one as a most genial, cheerful, pleasant sort of place, where one likes to linger and enjoy the lin-



not to have it compete with the entrance. On Forty-fifth Street, the motive of Harvard Hall has been reproduced almost exactly, the change occurring in very slight variations of the window openings. The top of the arch of the Palladian motive, besides some panes of glass below, was blocked up in the new part where the ceiling of the dining-room meets the exterior wall inside.

Coming now to the interior details of the Harvard Club, the plunge and the new dining hall are well worth careful study, for so excellent are they, each in a different way, that they may well be said to take high rank in contemporary architecture.

As will be seen from the drawings, the plunge is placed on the very top of the building to derive the full advan-

gering as much as the swim. For this purpose of tarrying after the exercise, the adjacent "solarium" is provided, separated from the pool only by a little lobby, which contains a tiny hot room and a winding staircase to the dressing rooms below.

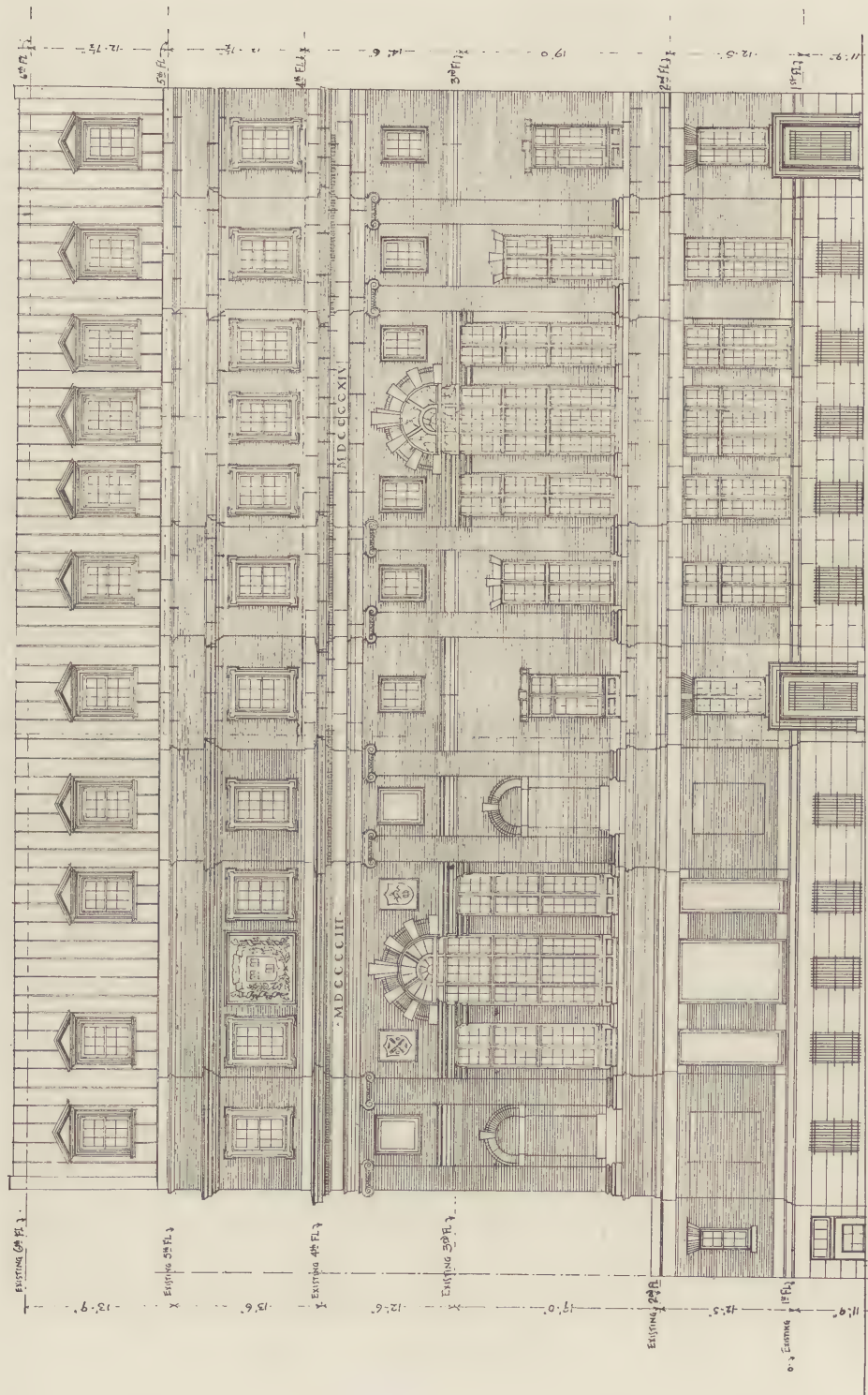
The unusual charm of the plunge and solarium, which were treated together as a whole, is further enhanced by the color. The solarium has white trim, walls and ceiling of light grayish yellow, mantelpiece of Belgian black-and-gold marble, with a floor of very rich deep green of the battleship linoleum. The plunge has much the same effect. White marble bands are used, white mosaic for the pool, and gray terrazzo is found on the floor and as a dado on the side wall. The side of the pool itself is formed of



FORTY-FIFTH STREET (REAR) ELEVATION—HARVARD CLUB
OF NEW YORK. MCKIM, MEAD & WHITE, ARCHITECTS.



FORTY-FOURTH STREET FRONT—HARVARD CLUB OF
NEW YORK. McKIM, MEAD & WHITE, ARCHITECTS.



NORTH ELEVATION, ON FORTY-FIFTH STREET—HARVARD CLUB OF NEW YORK. McKIM, MEAD & WHITE, ARCHITECTS.



DINING HALL—HARVARD CLUB OF NEW
YORK. MCKIM, MEAD & WHITE, ARCHITECTS.



DINING HALL, FORTY-FIFTH STREET END—HARVARD CLUB OF
NEW YORK.
McKim, Mead & White, Architects.



ALCOVE IN HARVARD HALL—OLDER PORTION OF HARVARD
CLUB OF NEW YORK.
McKim, Mead & White, Architects.



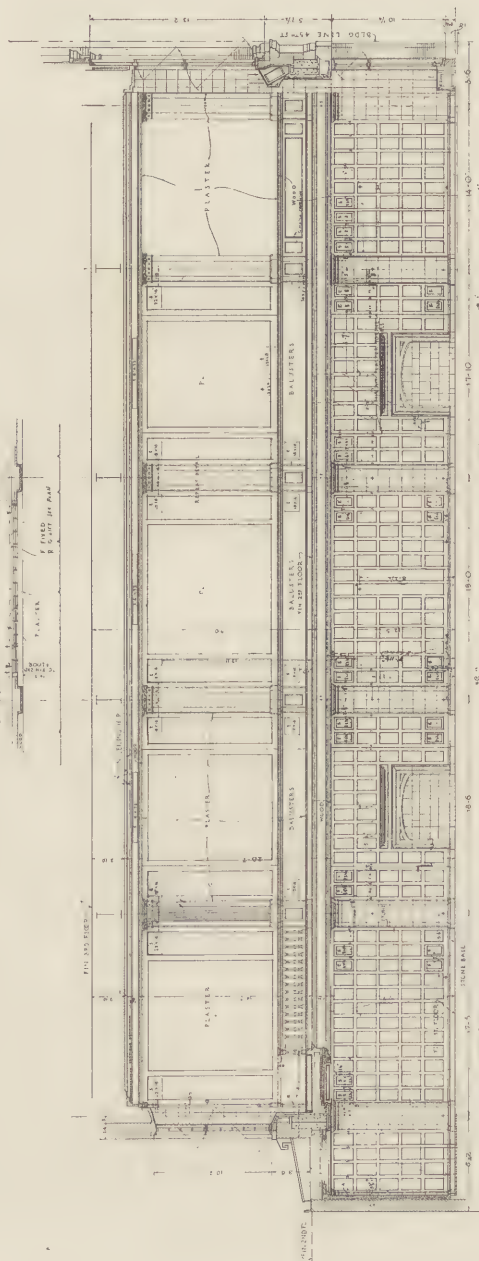
VIEW TOWARDS ENTRANCE OF DINING ROOM—HARVARD CLUB
OF NEW YORK.

McKim, Mead & White, Architects.



VISTA IN GALLERY OF DINING HALL—HARVARD CLUB OF
NEW YORK.

McKim, Mead & White, Architects.



WEST ELEVATION
MAIN DINING ROOM
SCALE 1/4"=1'-0"

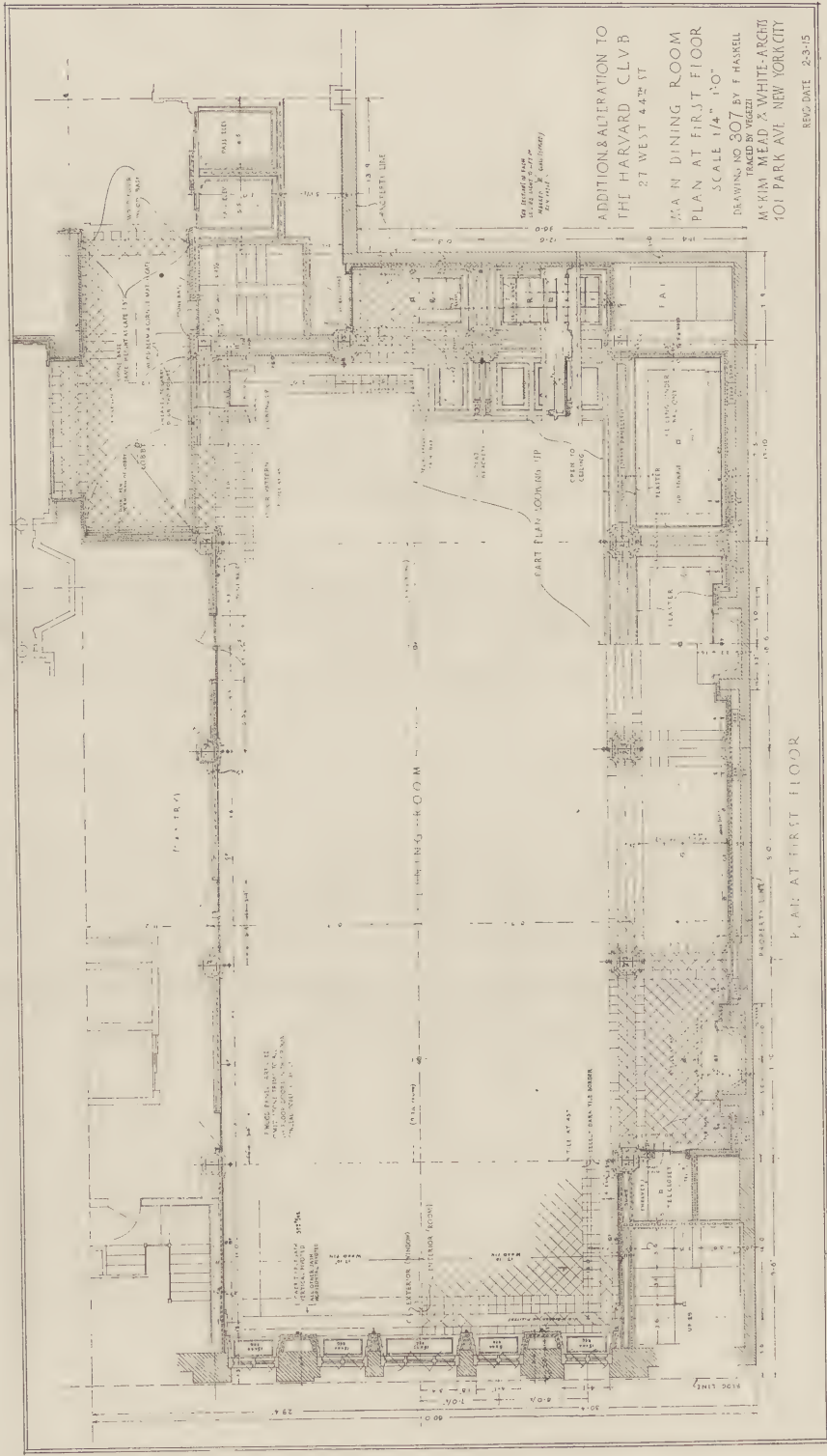
NOT TO SCALE
EXCEPT AS NOTED
HANDSHOWN IN THIS PROJECT

See attaching Section with
ADDITION AND ALTERATION TO
THE HARVARD CLUB
27 WEST 44 TH ST

STURIM MEAD AND WHITE ARCHITECTS
111 PARK AVENUE NEW YORK CITY

DRAWING NO 304-BY-HASRELL
TRACED BY VEGGI

REV'D DATE 2-3-15



ADDITION & ALTERATION TO
THE HARVARD CLUB
27 WEST 44TH ST
MAIN DINING ROOM
PLAN AT FIRST FLOOR
SCALE 1/4" = 1'-0"
DRAWING NO 807 BY F. HANSEL
M. KIM MEAD & WHITE-ARCHT
101 PARK AVE NEW YORK CITY
REVISED DATE 2-3-15

PLAN AT FIRST FLOOR



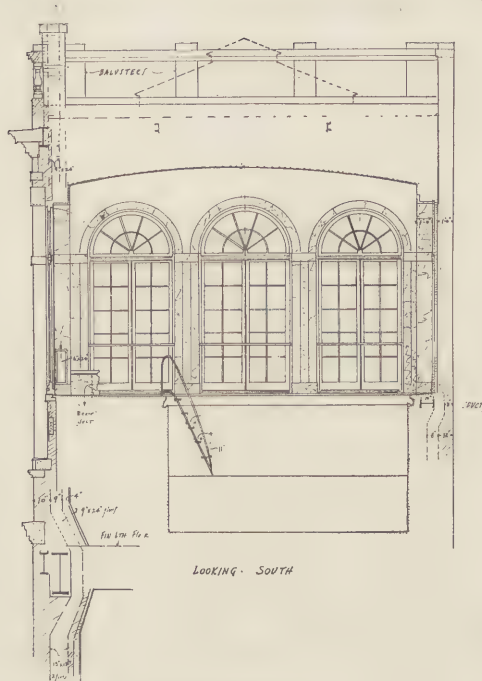
DETAIL OF PLASTER CEILING IN DINING
HALL—HARVARD CLUB OF NEW YORK.
McKIM, MEAD & WHITE, ARCHITECTS.



SOLARIUM, WITH VISTA INTO PLUNGE—HARVARD CLUB OF NEW YORK.
McKim, Mead & White, Architects.



THE PLUNGE—HARVARD CLUB OF NEW YORK.
McKim, Mead & White, Architects.



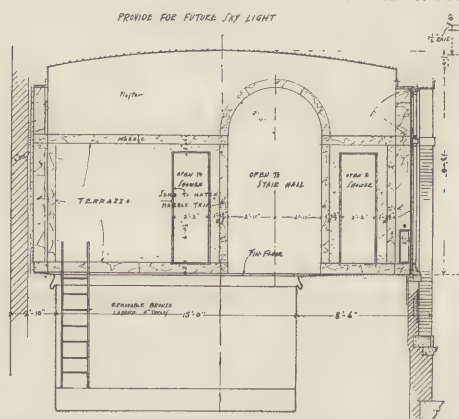
END ELEVATION OF PLUNGE—HARVARD CLUB OF NEW YORK.

small inch squares of white mosaic, with dark green bands. To set off this delicate color, which might tend otherwise to be insipid, there are little hedges of bay trees, set in the recesses of the casement windows. Extremely simple as it is, this arrangement of plunge is as perfect a bit of architecture as one often sees. It bears the stamp of style in every part of it.

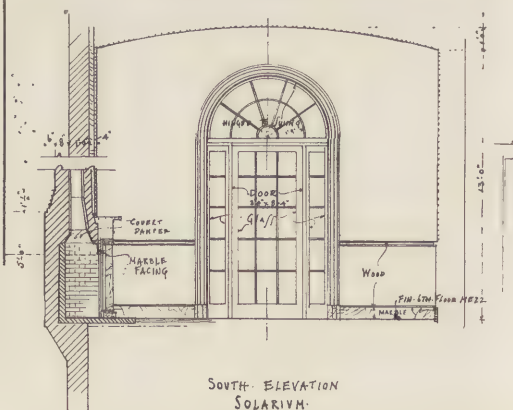
Quite different from the graceful cozy plunge is the great new dining hall on the ground floor. Its bold fine treatment, its virile character, its rich striking color express admirably its purpose—a dining hall in a club with Harvard traditions in the background. One can see at a glance that the architectural antecedents of the room are the old English halls, yet the treatment is original, the detail is free, and the adaptation is in no way slavish or mechanical. And, fortunately, the latest catchword in art-advertising cannot be applied to it. This hall is not a "period" room.

There is another virtue in this room. I have spoken of its bold treatment. A great vice that is creeping into Ameri-

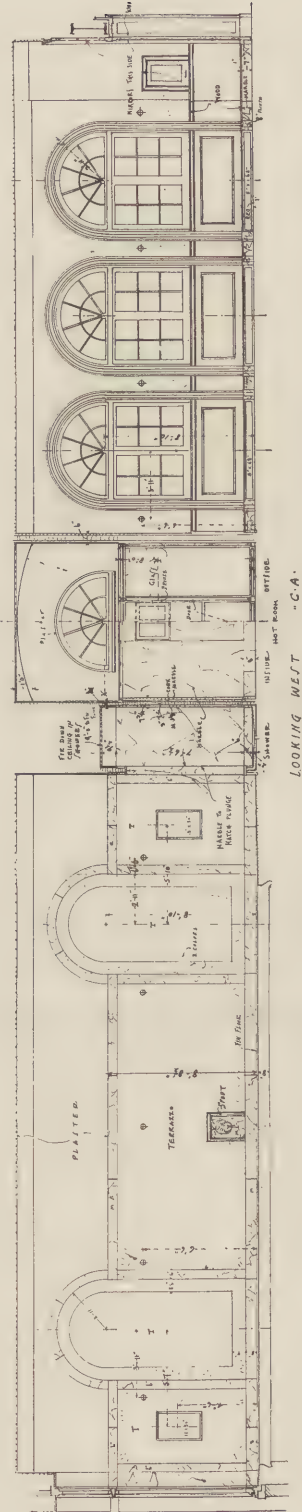
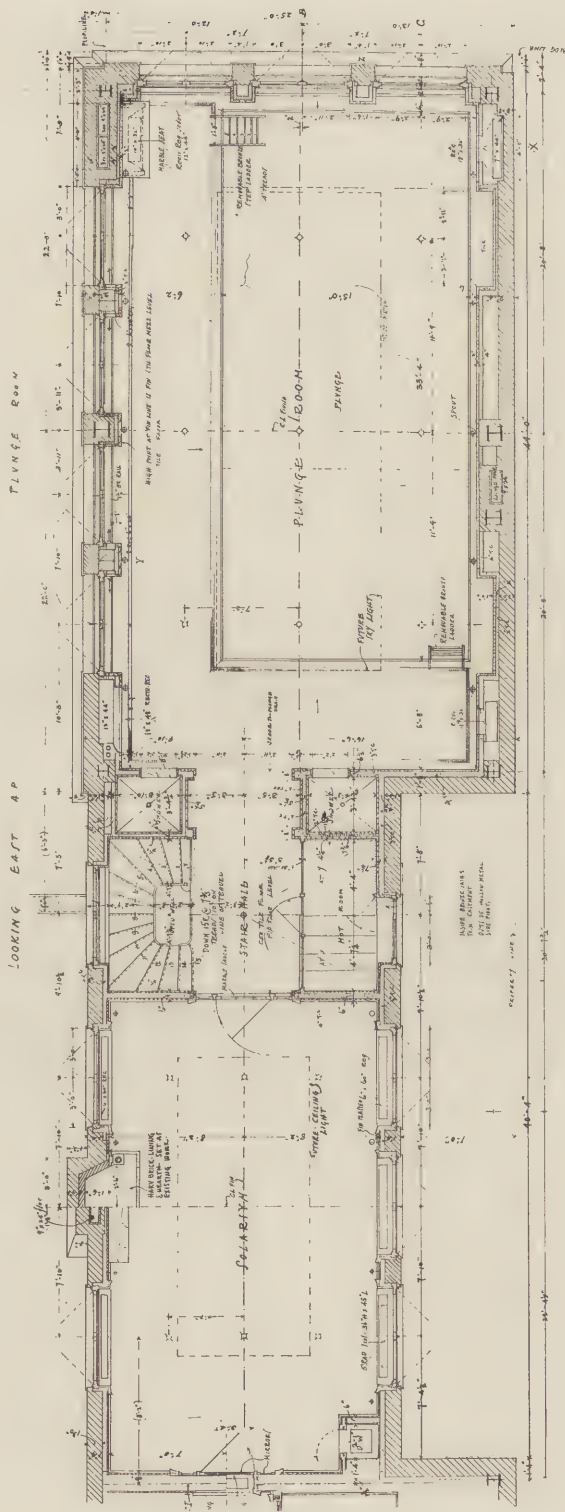
can architecture of interiors today is an exaggeration of tiny details. Mouldings are multiplied until they become liny and disturbing. Every little, plain surface is paneled in most tiresome fashion. It is as if draughtsmen had come to hate a white spot on a piece of paper, or a blank space on a wall, and to feel obliged to cover every bit of their drawings with something, preferably mere lines. As a result, the architecture as executed is endlessly tricked out, fussy and finicky—mere virtuosity. The precious contrast of broad plane surfaces against moulded surfaces is lost, there is no restfulness anywhere. This architectural nervousness, this over-working of the pencil, usually goes hand in hand with dislike of the brush. Such work



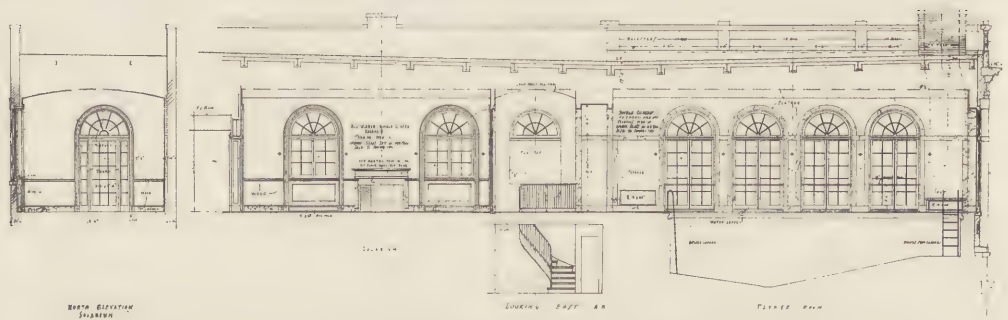
ENTRANCE ELEVATION OF PLUNGE, SHOWING SIDE ENTRANCES TO SHOWERS—HARVARD CLUB OF NEW YORK.



SOUTH ELEVATION OF SOLARIUM, SHOWING ENTRANCE INTO PLUNGE—HARVARD CLUB OF NEW YORK.



PLAN AND SECTION OF PLUNGE AND SOLARIUM LOOKING WEST—HARVARD CLUB OF NEW YORK. McKIM, MEAD & WHITE, ARCHITECTS.



NORTH ELEVATION OF SOLARIUM AND SECTION OF SOLARIUM AND PLUNGE, LOOKING EAST—HARVARD CLUB OF NEW YORK.

McKim, Mead & White, Architects.

is usually very weak in color, whereas color is the one thing that would save it, if anything could save it. The classic examples which are elaborately wrought in form, are usually rich in color, which at once clothes the form and enlivens it. For instance, the exuberantly rich ceilings of the Vecchio Palace in Florence would seem very heavy—as if they would fall on our heads—were they not colored with all the hues of earth and heaven to lighten them and to hold them up in place. Some years ago, I worked in an office where the head draughtsman was slightly under this evil influence. He called it “modern academic feeling.” It may be academic, but it is certainly not modern, and has no real feeling. Though this affectation of extreme elegance and artificiality is often found in New York, the best New York work is free from this vice, as in the case of the Harvard Club we are considering. It would be well, perhaps, to devise a label for this “modern academic feeling” which could be quickly applied to sufferers as a warning, much as boards of health paste saffron scarlet fever signs on front doors.

One turns from this over-emphasized technique to a work like the Harvard Club dining hall with a feeling of great relief. What a straightforward, manly quality it has! The slight looseness of the room, which results from the conditions imposed by the old work and which cannot be helped, is frankly faced. For instance, three of the walls of the room are not exactly symmetrical, and the needs of the service require that almost half the space under the galleries be

blocked off. Yet the splendid ceiling is designed to hold all this together, and prevent the eye of the beholder from contemplating too closely these minor irregularities. The arrangement of bedrooms and light courts above causes the wide column-spacing of the three central bays of the galleries, which does not seem too wide, however, for wooden construction. Incidentally, the general dimensions of the hall are as follows: The ceiling is some 95' 0" long and 35' 8" wide, and the total height of the room is 28' 7". The height from first floor to the gallery floor is 12' 5".

The description of the dining-room would not be complete without a brief notice of the admirable color scheme. The stone work is light gray, the ceiling a rich cream yellow, while the oak wood work was finished a very light, almost yellow color, with the knowledge that it will darken considerably in time. The gallery walls are a deep Pompeian sort of red, which seems a little strong in the evening perhaps, but which will take its proper place as the wood work grows darker and as other color notes are brought into the scheme—the tapestries, portraits, trophies, game heads, and the permanent lighting fixtures, replacing the present ones. It will be several years before this great room will really be completed to reach its full beauty. Such a work can rarely be finished all at once, and when it is, it is apt to look like a stage setting or a show window.

Thus, so far as the dining hall is concerned, this description is written about five years too soon, but time and publication wait for no man.

TYPES OF ELEVATOR LOBBIES IN OFFICE BUILDINGS

By CECIL F. BAKER

DURING the past twenty years no phase of architectural practice in the United States has shown so marked a development as that of office building design and construction. In this class of work may be found the largest buildings in the country as well as those representing the greatest financial investments entrusted to the architectural profession. The term "office building" has come to be almost synonymous with "skyscraper." Since the problem of high buildings is of so vital an interest to the architectural profession, and since the paramount requisite for the success of a high building is its elevator service, it is hoped that the following outline of the fundamental factors entering into the solution of such a problem will be helpful to the members of the profession.

NUMBER OF ELEVATORS REQUIRED.

Experience has evolved two theoretical methods for determining the number of elevators required for any building, which in practical use have given very satisfactory results. The two methods are as follows:

(1) Allow one elevator for every 20,000 to 30,000 square feet of renting space above the first floor.

(2) Allow one square foot of elevator floor area to each 1,200 square feet of renting area above the first floor.

The first method is perhaps the better one, as the number of cars is of more vital importance than the size of the cars; for it can be easily seen that two cars of 30 square feet area each would give better service than one car with a floor area of 60 square feet. The greatest consideration in determining the number of elevators is to have enough cars, so that there will always be one at the ground floor ready to start on the upward trip. The greater the number of cars the smaller may be the ratio of the cars to the renting area, as with a large number of cars the problem of always having a car

at the ground floor solves itself. Where there are less than six cars the ratio should not fall below the maximum of 30,000, while if there are ten cars or over the minimum of 20,000 may be safely used. The character of the tenancy of the building must be considered, for a building occupied by doctors, studios or retail shops, all having many callers, will require more elevator service than a building occupied by big industrial companies having but few callers.

LOCATION OF ELEVATORS.

The general location of the elevators must be determined in relation to the typical floor plan rather than to the first floor plan, for here any extravagant use of floor space is multiplied by the number of floors. The elevators must be of easy access to all parts of the typical floors, a central location being the most desirable. However, in many cases a dark corner or the blank party wall is the wisest location, as these spaces are of little value for renting purposes. The bank of cars should be arranged so as not to divide the typical floor, because the renting area should be in one open space, so that it may be rented to a single tenant. This is easily accomplished when the elevators are on the blank party wall, but when they are centrally located greater care is required to prevent them from dividing the floor area into two parts which could not be used advantageously by a single tenant. In case both express and local services are employed, the local cars should be stopped at an intermediate floor and the space over them on the upper floors rented.

FREIGHT ELEVATORS.

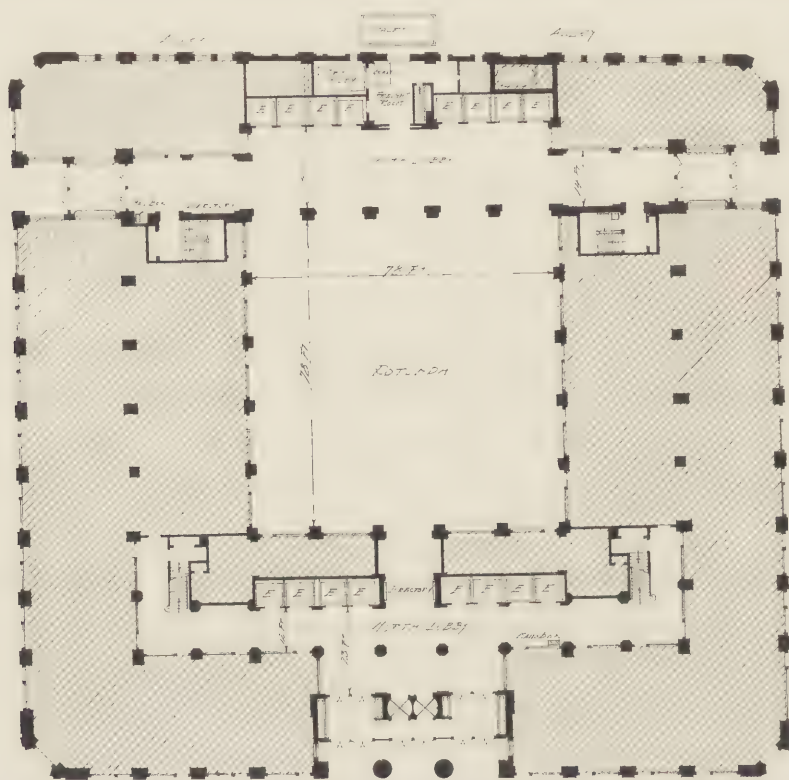
There are three methods for the arrangement of freight elevators in office buildings; the choice of a method depends upon the amount of freight that must be handled and the character and the promptness of the service required.

(1) The most common and the most

satisfactory method is that of having a freight receiving room and one or more freight elevators at the rear of the building with direct access to the alley or receiving court at the first floor. Of the plans illustrated the McCormick, Marquette and Conway buildings use this system; in these buildings the delivery

floors, as shown on the accompanying plan of the Michigan Boulevard Building.

(3) A third and the most economical method is that of using one elevator in common for passengers and for the delivery of freight, which means that no freight can be delivered during the rush hours, when the car must be used for

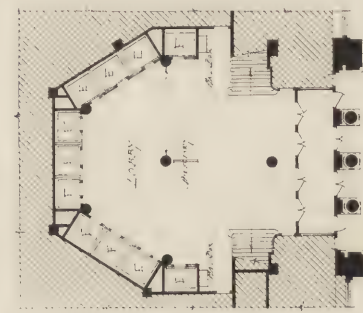


PLAN OF ELEVATOR LOBBIES IN CONWAY BUILDING, CHICAGO.
Graham, Burnham & Co., Architects.

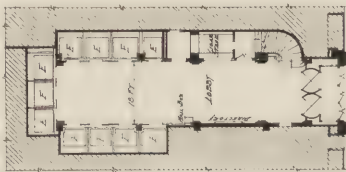
of all packages, however small, is made by way of freight elevators. Note on the Conway plan the secondary door from the freight room to one of the passenger cars, thus admitting the use of the elevator for passengers during rush hours and for package delivery during the remainder of the day.

(2) A more economical method, but a fairly satisfactory one, is that of installing a separate freight elevator at the rear of the building, but without a receiving room at any of the floors. In this case the elevator opens directly upon the alley as well as into the public corridor on the typical

passengers. Where this system is used it is usually necessary to install a lift to carry freight from the alley to the basement, where it can be sorted and stored until such an hour as it is possible to deliver it to the upper floors. The plan of the Steger Building shows such an arrangement, and a similar system is used in the Monroe Building. This type of installation necessitates the delivery of small packages which cannot be delayed, as well as the carrying of the building employees in the passenger cars. Many tenants object to entering elevators with delivery men and building employees, so



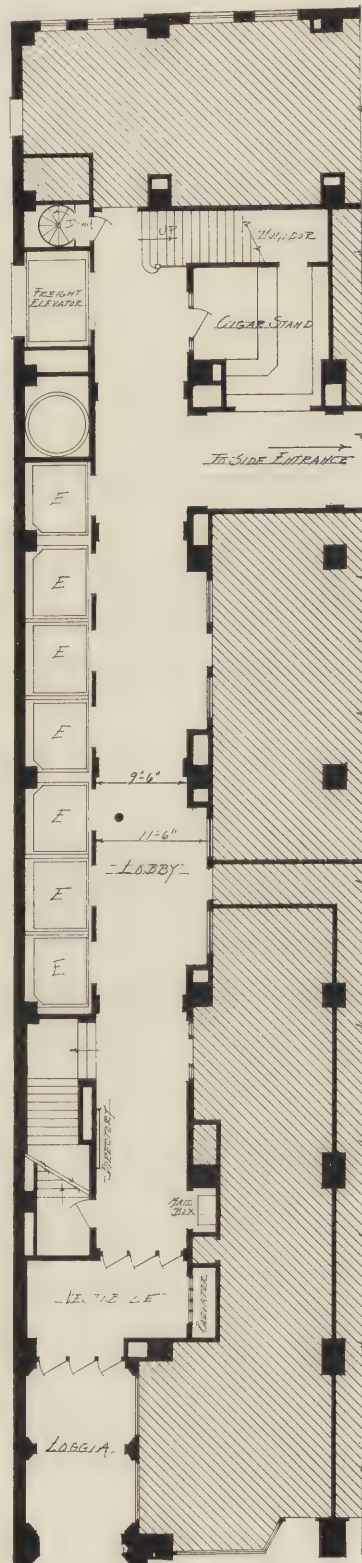
No. 3.



No. 2.



No. 1.



No. 4.

PLANS OF ELEVATOR LOBBIES: 1. STEGER BUILDING, MARSHALL & FOX, ARCHITECTS. 2. MCCORMICK BUILDING, HOLABIRD & ROCHE, ARCHITECTS. 3. MICHIGAN BOULEVARD BUILDING, JARVIS HUNT, ARCHITECT. 4. MARQUETTE BUILDING, HOLABIRD & ROCHE, ARCHITECTS. ALL FOUR BUILDINGS ARE IN CHICAGO.

before this system is adopted the interests of the tenants and the character of the service to be given them must be carefully considered.

RELATION OF ELEVATORS TO LOBBY.

As already mentioned, the location of the elevators will be largely determined by the arrangement of the typical floor, but their relation to the ground floor cannot be disregarded. The paramount requirement is that the elevators be in direct view of a person entering the building, and they should be as near the entrance as their disposition on the typical floor will allow. The directory board should be so located that visitors to the building will pass it on their way to the elevators, but so situated that those standing in front of it will not block the free passage of others. The mail box and the cigar stand must also be so placed that people loitering at either will not interfere with the free passage to and from the elevators. The entrance to the main stairs should be as near the building entrance as possible and always nearer than the elevators, as any callers to the second floor will walk up and they should not be forced to mingle with or block those passing to and from the elevators. If in any large building there are two entrances, there should not be a bank of elevators at each entrance unless the building is large enough to warrant each bank having at least six cars. Note the plans of the Conway and the Michigan Boulevard buildings.

ARRANGEMENT WITHIN THE BANK.

The way of arranging the elevators within the bank may be classed under four schemes, all of which may be varied as occasion demands.

(1) The most common method is that of placing the cars in a line perpendicular to the street, as in the Michigan Boulevard Building. Experience tends to show that this arrangement, when more than seven cars are required, is not entirely satisfactory, as with more than this number of cars the distance from one end of the bank to the other is so great that a person missing a car at one end is forced to walk too far to catch a car at the other end.

(2) Another arrangement is that of placing the cars parallel with the street. For a small, shallow building, such as the Steger, this method is very satisfactory, but where a large number of cars are required it is subject to the same criticism as the previous scheme, although if the entrance corridor meets the elevator lobby opposite the center of the bank this objection is overcome.

(3) The fan-shaped bank of cars, as in the Marquette Building, gives excellent results, but is extravagant of floor space. In perhaps no other scheme are the cars in so direct a view of a person entering the building or so equally distant from the entrance.

(4) The U-shaped plan, as in the McCormick Building, has from the point of service as great advantages as the fan plan, while it has much greater advantages from the point of economy of space and the possibilities which it offers for a good architectural treatment of the lobby. To the writer this seems to be the ideal arrangement for a bank of elevators. Upon entering the lobby a person can see every signal light and upon reaching the open side of the U he is almost equally distant from every car, so in case of missing the one for which he had started he has but a few steps to take to reach any other car.

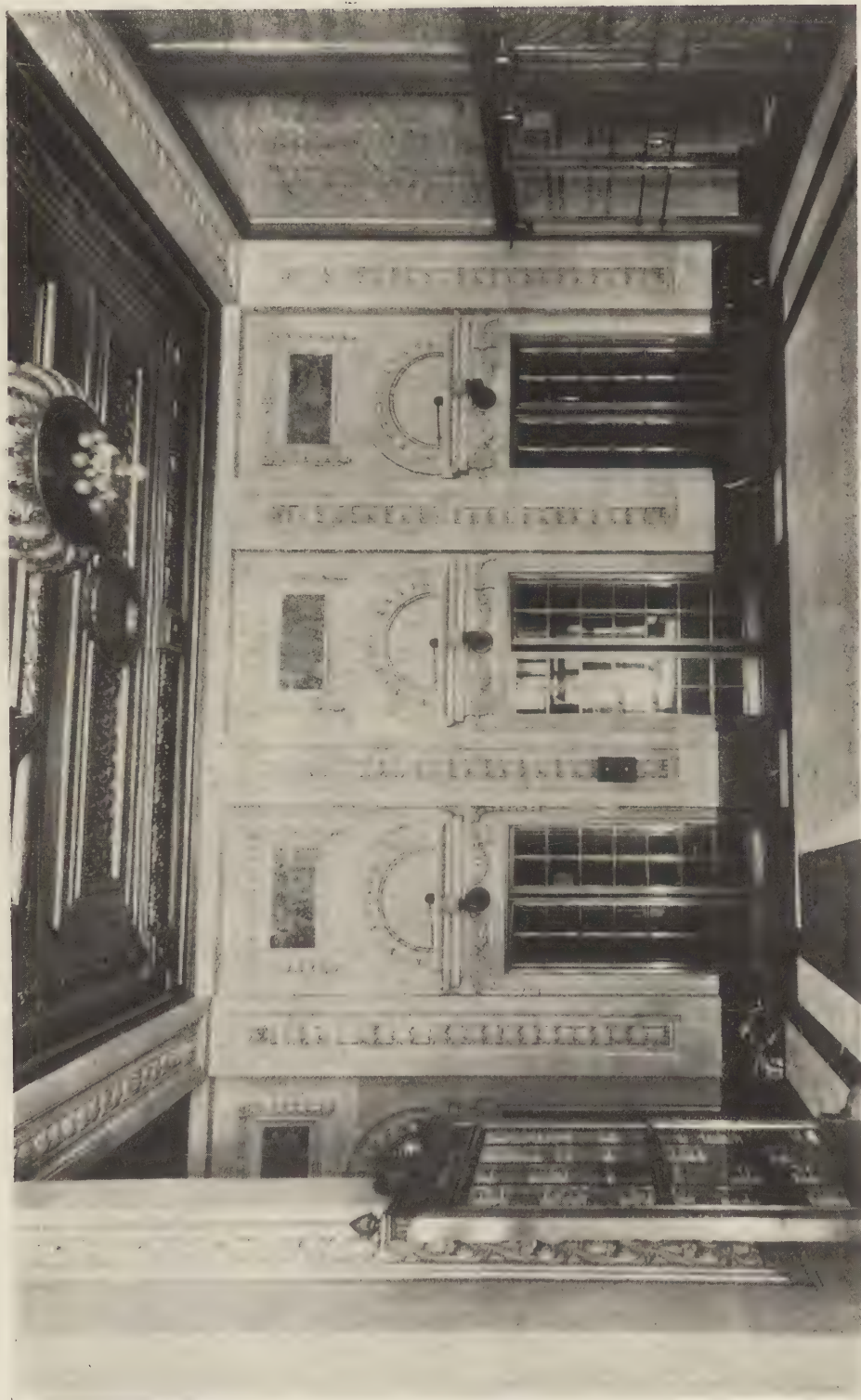
DESIGN OF GRILLES AND FRONTS.

The design of elevator fronts is largely a matter of architectural design, but the various combinations of materials which may be employed in executing the design, to some extent necessitates certain practical considerations as effecting the efficiency of the service. Generally speaking, these treatments may be classed under three heads.

(1) The first is that in which the entire wall surfaces are covered with marble, tile, or terra cotta. When these materials are employed the danger to be avoided is that deep door reveals or heavy pilasters do not obscure the elevator doors, signal lights, and indicators from the view of a person entering the lobby. In treatments of this sort the signal lights and indicators should always be outside of the door reveal. When the bank of elevators is parallel to the street, as in the



ELEVATOR LOBBY IN MICHIGAN BOULEVARD
BUILDING, CHICAGO. JARVIS HUNT, ARCHITECT.



ELEVATOR LOBBY IN STEGER BUILDING,
CHICAGO. MARSHALL & FOX, ARCHITECTS.



ELEVATOR LOBBY IN PEOPLES GAS BUILDING, CHICAGO. GRAHAM, BURNHAM & CO., ARCHITECTS.



ELEVATOR LOBBY IN MONROE BUILDING,
CHICAGO. HOLABIRD & ROCHE, ARCHITECTS.



ELEVATOR LOBBY IN MCCORMICK BUILDING,
CHICAGO. HOLABIRD & ROCHE, ARCHITECTS.

Steger Building, this danger is not so great.

(2) The next method is a combination of materials already mentioned, with more or less metal grille, in which case care must again be taken that neither pilasters or columns project too much. Note the flatness of the pilasters in the corridor of the Michigan Boulevard Building. The writer has known of several instances where it has been necessary, because of the projection of heavy pilasters, to reconstruct and to extend the signal light brackets after the lobby has been in use for some months. The same defect and the deepness of the door reveals were vital factors among those which necessitated the entire reconstruction of one lobby.

(3) An all grille front is the most desirable, as the contrast of the grille with other parts of the lobby aids in attracting attention to the elevators and a grille lends itself readily to a very flat treatment, thus obviating the dangers of protruding projections of the wall surfaces. See the illustration of the McCormick Building.

Experience has shown that the door widths should vary but little from four feet; the doors should always be two-fold and, if possible, the two folds should slide in opposite directions, both of these items being of more than temporary moment in the speed and safety with which the doors can be operated.

The size of the cabs will, of course, depend upon the conditions of each particular problem, but in few cases should a car have a floor area under 30 square feet and seldom should it be over 50 square feet. The cars should always be wider than they are deep in order to avoid delay and danger of accident occasioned by passengers passing one another within the car.

ACCESSORIES.

It is becoming quite a common practice to install wire glass behind elevator grilles. This does not detract from the appearance of a good grille and has two distinct advantages. The shutting off of the elevator shafts does away with disagreeable drafts which are so common in the corridors of large buildings with open elevator shafts, and the wire glass will

often lower the insurance rate. The glass should be a clear wire plate, for an obscure glass is undesirable, as the operator of the elevator should be able to see out from his car at all floors.

The signal lights and indicators should be placed immediately over each door and at a height not greater than nine feet. The numerals and hands of the indicator should contrast in color with the dial, for as elegant as a polished bronze indicator may be it is of little use, particularly when reflections of light strike its polished surfaces. The simpler the signal lights the better; nothing can be more satisfactory than a spherical globe of not less than seven inches in diameter with different colored lights in the upper and lower halves, one for "down" and one for "up."

The call-back bell should be placed at the point where the elevator starter will be stationed, and the night bell should be conspicuously located at the end of the elevator bank which is nearest to the entrance of the lobby.

FLOORS IN CABS AND BEFORE DOORS.

The problem of floors in the elevators as well as in front of the doors in the lobby at each floor is important for several reasons. A material selected for these floors must be very durable. It must be non-slipping and must present a surface which can be easily cleaned and which will look well when clean. To fulfill these requirements there seem to be but three materials which can be used satisfactorily: loose rubber mats, rubber tile, or cork tile. Loose rubber mats, although cheaper to install than either of the other materials, are neither so economical nor satisfactory in the long run. Rubber tile or cork tile wear well, are easily cleaned and require no finished floor under them, while their non-slipping qualities are good.

Regardless of which one of these materials is used, a brass angle should be installed at the juncture between it and the marble or the tile floor. The non-slipping surface should run the full length of the elevator fronts, and not just in front of the doors, as serious accidents have occurred to people slipping in making a short turn onto a marble or tile floor upon leaving the elevator.

The AMERICAN HOSPITAL DEVELOPMENT

By EDWARD F. STEVENS

PART I.

THE establishment of the private hospital is nearly within living memory. The public hospital, however, dates back to the earliest times. The temple of Esculapius, recently excavated at Epidaurus, Greece, must have been the public hospital of that section. "Hotel Dieu," founded in Paris in 600 A. D., was a hospital as well as a work-house and inn.

Burdett states that the earliest known hospitals were those in Greece, in the fifth century B. C. In 1877 he published a small volume containing a list of about two hundred cottage hospitals operating in England.

Taylor states that the village or small private hospital idea started in England about 1855, in a small building erected by Dr. Napper at Cranleigh. He also says that the first, or at least one of the first, of the cottage or small hospitals especially built for the purpose in America was the House of Mercy, at Pittsfield, Mass., occupied in 1875, only forty years ago. From this small start, the growth of the private as well as the public hospital has been tremendous.

In 1911, Emerson writes that "of the 2,547 hospitals in the United States, more than one-third have less than twenty beds and one-third from twenty to fifty." Of this number of hospitals, the increase in ten years (1901-1911) is forty per cent.

The official number of hospitals and sanitoriums in 1914 was seven thousand, housing one million persons, of which number five hundred and eighty thousand were patients.

I have mentioned just a few of these facts and figures to show what a tre-

mendous growth this branch of architecture has had within a decade.

HOW INFLUENCED BY THE EUROPEAN INSTITUTION.

While we, in America, would not consider the duplicating of any of the European institutions, nevertheless we can learn from them a great deal of the best hospital technique, particularly from the larger ones. Not one of these institutions, placed in our midst, would suit our conditions; but we can, by dissecting them, take the good points and apply them to our American needs. In one hospital we may find an ideal lighting system; in another, an ideal arrangement of beds and equipment; and in another, a new method of bathing the patients. In fact, there are very few institutions one may visit without obtaining some good idea of construction or equipment or treatment.

The European methods of treatment, nursing, and feeding are all different from those employed in the United States and demand different considerations in the housing of their sick.

The greater hospitals of northern Germany,—such, for instance, as the Eppendorf, the St. Georg, and the Barmbeck, at Hamburg, housing thousands of patients,—are built on the isolated plan; that is, the buildings are not connected with each other except by pipe tunnels, and the pavilions generally are only one or two stories in height. In nearly every case, however, there are one or two pavilions, for the care of post-operation cases, which are connected with the operating building; but, for the most part, the patients are taken overground

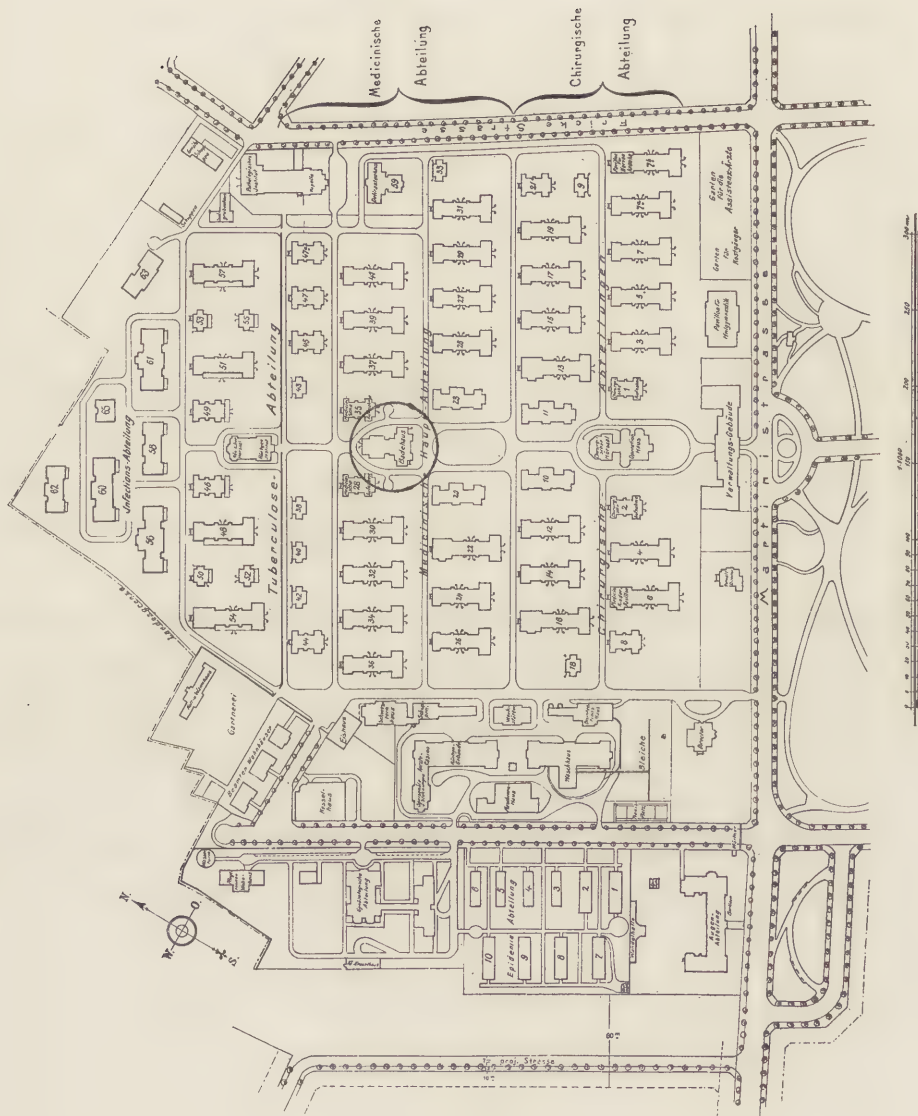
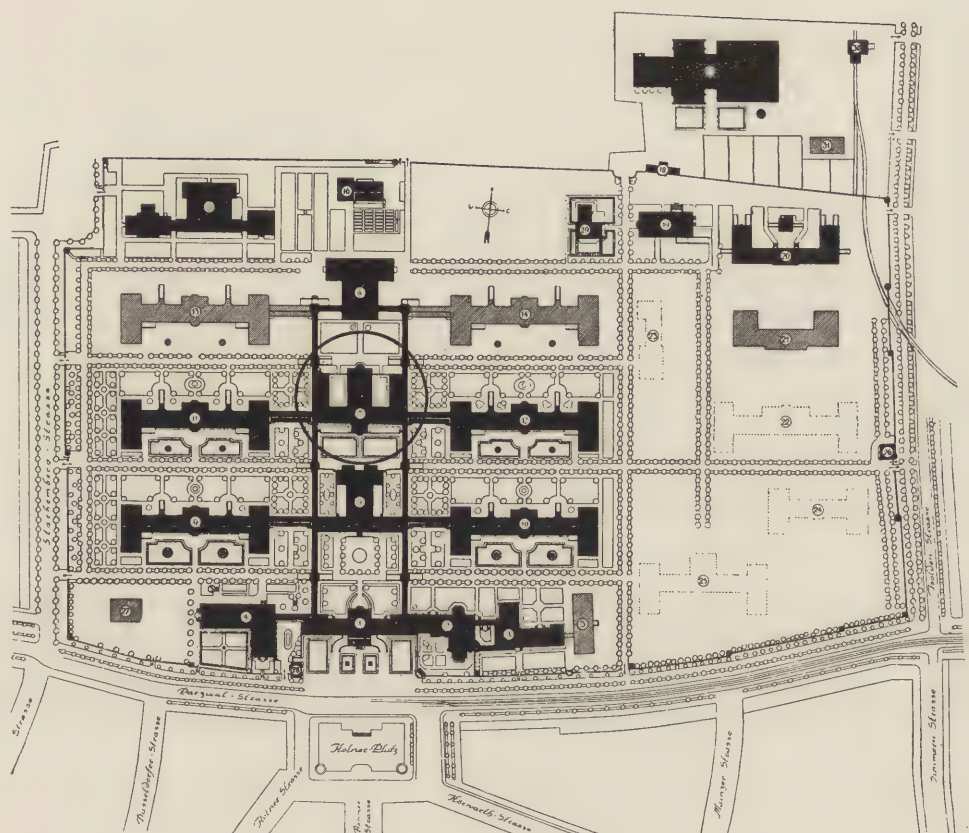


FIG. 1. GENERAL PLAN, EPPENDORF HOSPITAL, HAMBURG, GERMANY.



FIG. 2. GENERAL PLAN, RUDOLPH VIR-
CHOW HOSPITAL, BERLIN, GERMANY.



- | | | | |
|--|--|------------------------------------|---|
| 1. Main building. | 8. Kitchen. | 17. Machinery building. | 25. Gynecological building. |
| 2. Chapel. | 9. Male out-patients' building. | 18. Animal experiment building. | 26. Janitors' quarters. |
| 3. Sisters' building. | 10. Female out-patients' building. | 19. Pathological building. | 27. Director's residence. |
| 4. Administration building and apothecary. | 11, 13. Male patients' buildings. | 20. Segregation building. | 28. Public lavatory. |
| 5. Benzine building. | 12, 14. Female patients' buildings. | 21. Contagion building. | 29. Main administration building and residence. |
| 6. Operation building. | 15. Disinfecting building and laundry. | 22. Skin and sex disease building. | 30. Coal house. |
| 7. Main bath. | 16. Garden and workshop. | 23. Mental disease building. | 31. Building for help of electric plant. |
| | | 24. Children's building. | |

FIG. 4. GENERAL PLAN, MUNICH-SCHWABING HOSPITAL, MUNICH, GERMANY.

Richard Schachner, Architect.

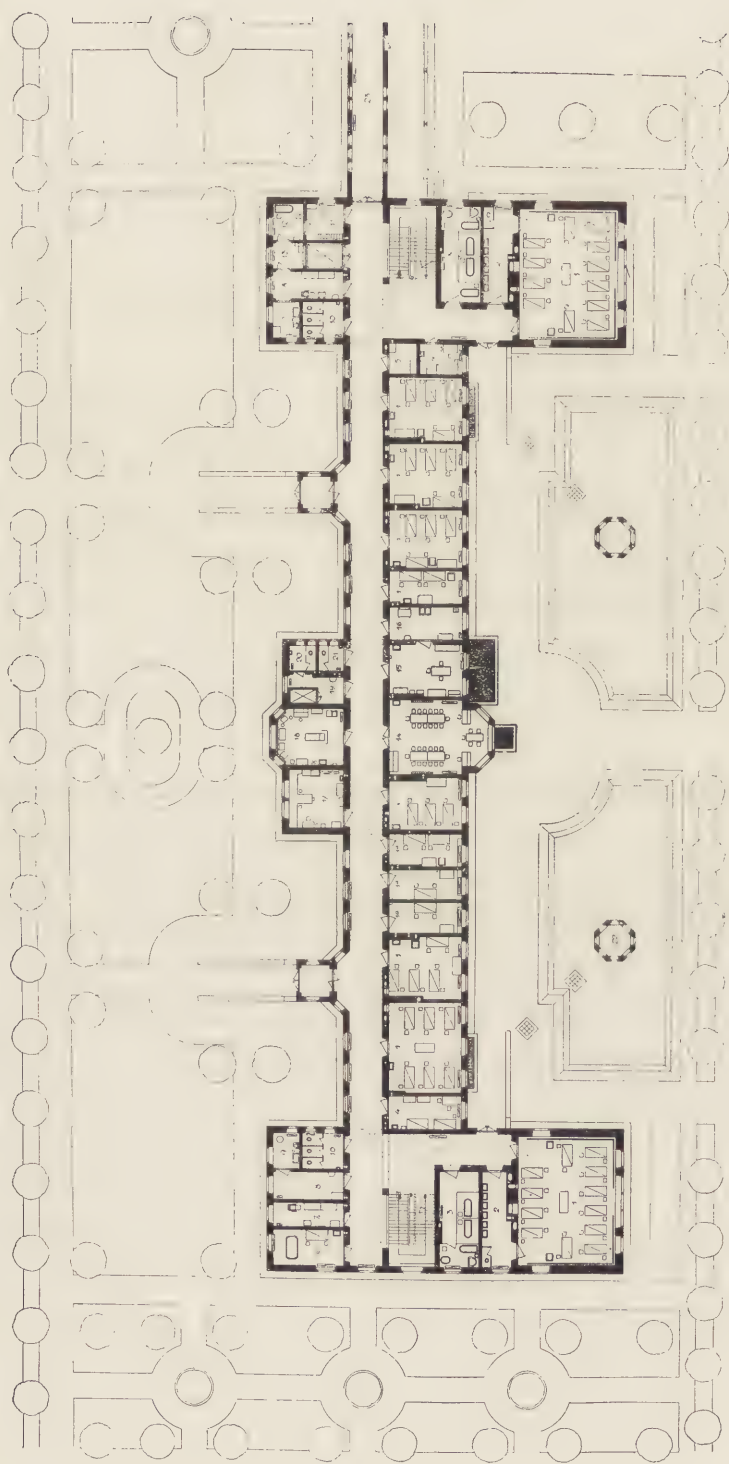
medical profession. It is these new discoveries, innovations and details that we can embody in our twentieth century American hospital; but the planning, as a whole, must be done to fit our conditions of service, finance, and climate.

Unlike most architectural problems, the *plan* of the hospital is the strongest factor in the design; for the sunlight, the shade, and the air—in fact, the entire environment—have their vital bearing on the main feature of the hospital, viz: *the care of the patient*. While the design should never be overlooked, the plan should hold at least eighty per cent. of importance of the entire structure; and if the plan is right, we should be able to clothe it properly.

The planning of an efficient, up-to-the-minute hospital needs the combined knowledge of architecture, medicine, business, and art. The constant change in treatment of disease produces a demand for new departments and new conditions in the plan. A few years ago the pneumonia patient was kept in a warm room, free from draughts of cool air, while today that same patient will be placed in the open air.

The campaign against the "white plague" has led not only the medical man but the public at large to demand outdoor conditions, and the sleeping porch is the general rule rather than the exception in the modern country house.

The discovery that nearly all conta-



Pavillon für innerlich Kranke, Medizinische Abteilung A. Grundriss des Erdgeschosses

1. Krankenzimmer. 1a. Isolierzimmer. 2. Waschraum. 3. Krankenzimmer. 4. Wärterzimmer. 5. Geräteraum. 6. Dauerbad. 7. Lagerraum. 8. Geräteraum. 9. Fäkalienteerung. 10. Krankenaborte. 11. Auskleideraum. 12. Aufnahmeabdt. 13. Ankleideraum. 14. Tagraum. 15. Stationszimmer. 16. Spülküche. 17. Laboratorium. 18. Untersuchungszimmer. 19. Lommentraum. 20. Schwesternabdt. 21. Personalabdt. 22. Jatzuführungshauschen. 23. Verbindungsgang.

FIG. 5. PLAN OF WARD UNIT, MUNICH-SCHWABING HOSPITAL, MUNICH, GERMANY. RICHARD SCHACHNER, ARCHITECT.

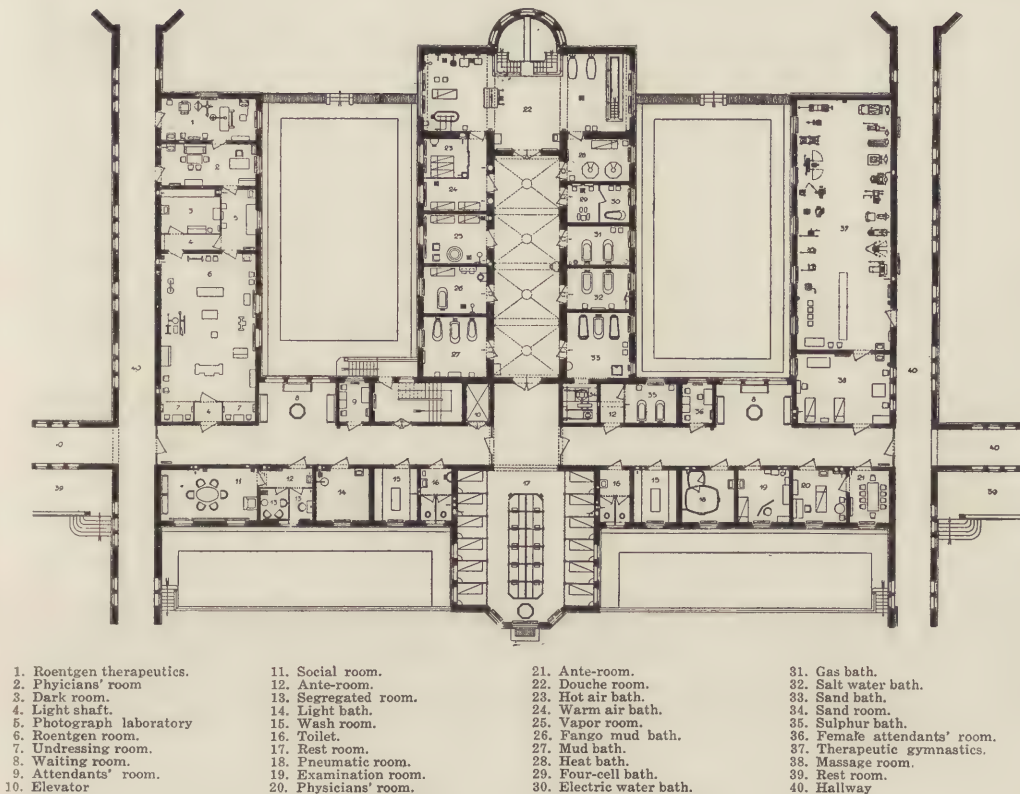


FIG. 6. GROUND FLOOR PLAN, MEDICAL TREATMENT BUILDING, MUNICH-SCHWABING HOSPITAL, MUNICH, GERMANY.

Richard Schachner, Architect.

gious diseases are transmitted by contact and very few by "air-borne" infection made the planning of our contagious hospitals an entirely different problem.

Modern asepsis has largely changed the demand of the surgeon. The development of preventive medicine and therapeutic treatment for the relief of the once-considered "chronic" cases is giving back to the world useful people that were a care and a nuisance.

The modern care of the psychopathic patient brings new demands for the hospital architect.

All these conditions, and many more, must be constantly borne in mind. We should not wait for the surgeon, the medical man, and the alienist to tell us how to plan; but with them we should study the conditions and together should meet them in a rational way.

From the administration end we should so plan that as little friction as

possible will be felt in administering the affairs of the institution. As some one once said, "it is not so necessary to watch the entrances of an institution as to watch the exits." In this department standardization should be planned for and practiced.

The planning of the kitchen, the diet kitchen, and the serving kitchen, so as to properly prepare and serve the food to the patients and at the same time not to disturb, by too close proximity, the quietness of the patients, is not the least important feature; for good food, properly served, goes a long way toward ultimate recovery.

The utilities, such as sink room, baths, toilets, surgical dressing room, and the like, should be carefully planned as to location.

EXAMPLES OF EUROPEAN PLANNING.

Take some of the best-known and best-equipped hospitals in Europe and com-

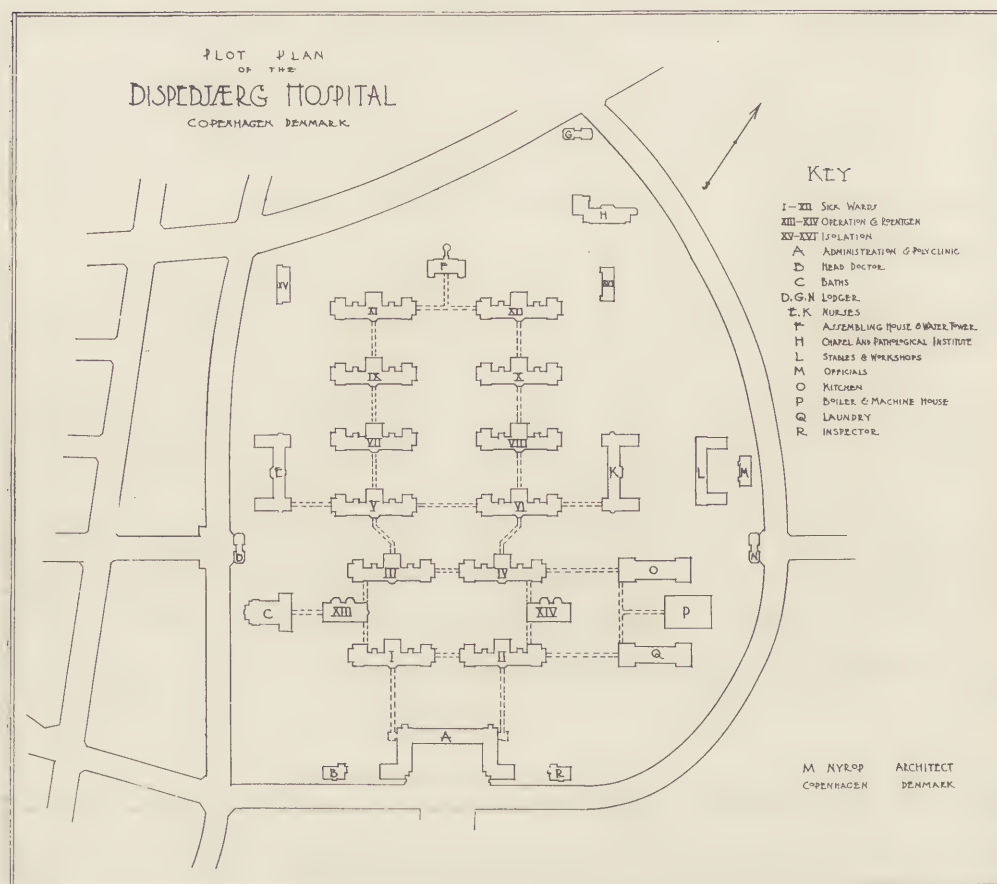


FIG. 7. GENERAL PLAN, BISPEBJERG HOSPITAL, COPENHAGEN, DENMARK.
M. Nyrop, Architect.

pare them with a few of our newer hospitals.

The Eppendorf at Hamburg, built about 1889, with a capacity of about two thousand beds, is of pure pavilion type, with grounds of one hundred and thirty-six acres. It consists of one hundred separate buildings, eighty-five of which are for the reception of sick. The major portion of these buildings is only one story in height. The operating and medical buildings occupy the central axis (Fig. 1), and it will be noticed that the bath-house (enclosed in circle) occupies more space than the surgical building (directly on axis with the entrance).

The Rudolph Virchow Hospital at Berlin (Fig. 2), completed in 1907, with a capacity of two thousand beds, is one of the largest general hospitals today

and, with all its surgical facilities, a large unit is devoted to bath and medical treatment.

The ward units of both the Eppendorf and the Virchow are but one story in height, with the floor level so arranged that the patients can be wheeled overground from one building to another, and the convalescents can go, with ease, from the ward to the gardens which, with all German hospitals, are beautifully laid out and cared for, with benches, pavilions, etc.

The ward unit of the Eppendorf has the service at the ends of the building; while the Virchow has the service portion at the center and the two ends, with the two twenty-bed wards between, and with the day-rooms for patients between the wards and central service (Fig. 3).

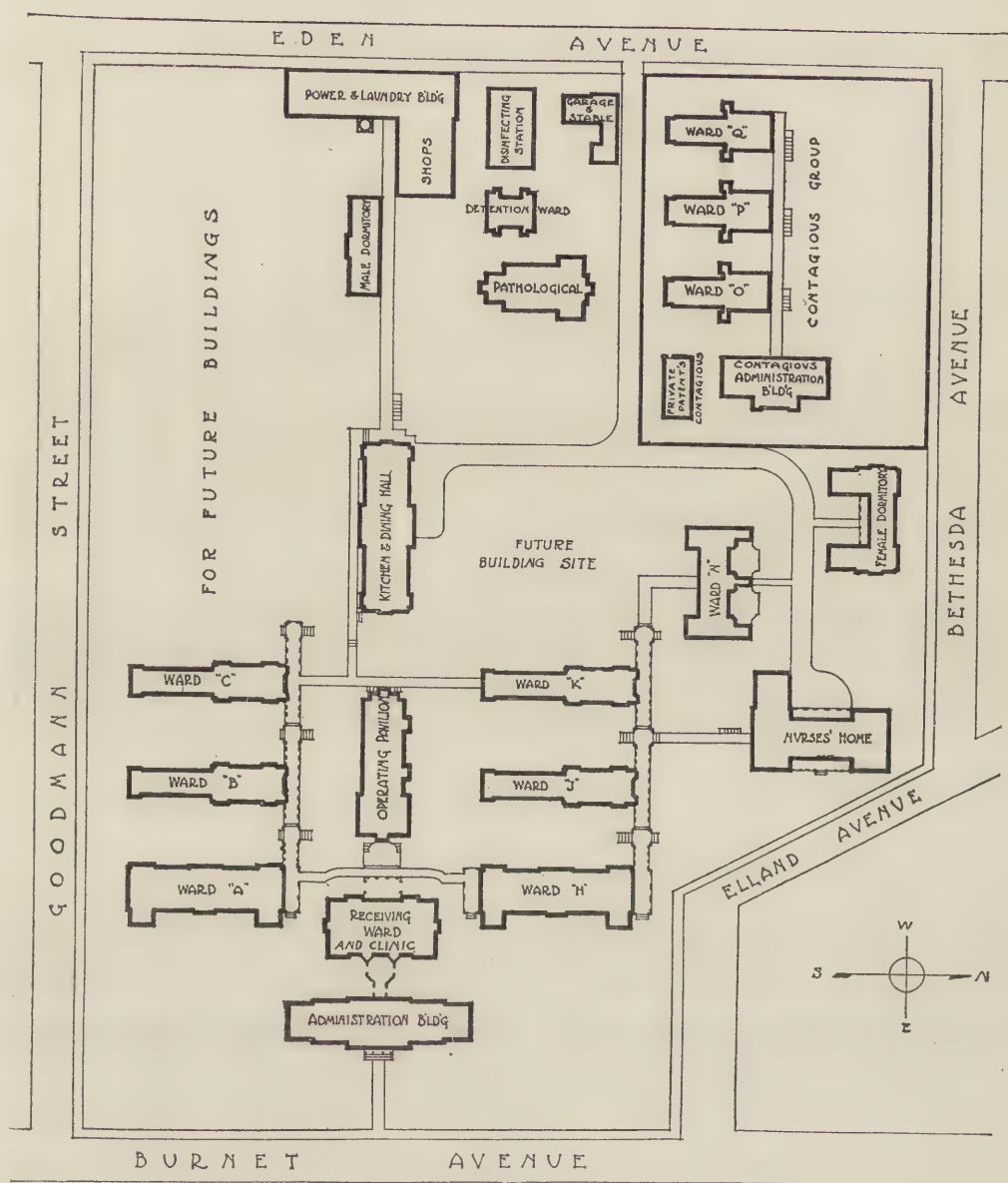


FIG. 8. VIEW AND GROUP PLAN OF THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO. SAMUEL HANNAFORD & SONS, ARCHITECTS.



FIG. 9. KITCHEN BUILDING—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.

In the Munich-Schwabing at Munich (Fig. 4), the ward unit is much more complex. In general plan it differs from nearly every large hospital on the Continent, inasmuch as all buildings are connected by corridors. Parallel lines of corridors run north and south, passing from the administration building, past the operating and medical treatment buildings, to the domestic unit at the extreme north. The ward unit (Fig. 5) is

arranged with small wards of not more than eight beds each, with the necessary baths, laboratories, day rooms, and treatment rooms for each unit.

This institution has one of the best-equipped medical or bath departments of any hospital on the Continent, devoting much more space to this than to the surgical department (Fig. 6). Some of the baths here supplied are hot air, vapor, mud, electric, gas, sand, and sulphur

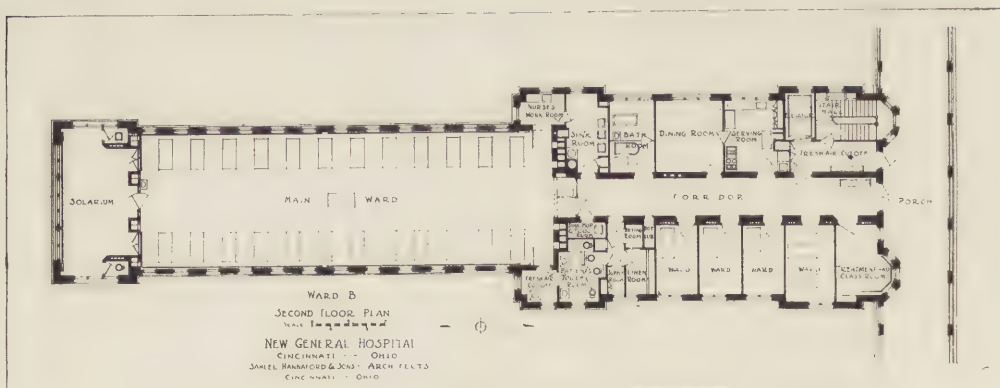


FIG. 10. WARD UNIT PLAN—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



FIG. 11. WARD BUILDINGS "C" AND "B"—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



FIG. 12. REAR VIEW, WARD BUILDINGS "J" AND "K"—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



FIG. 13. INTERIOR OF ONE OF THE WARD BUILDINGS—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.

Samuel Hannaford & Sons, Architects.

baths, with accompanying rest rooms and Roentgen-ray and mechano-therapy departments—in fact, everything that science has dictated for the alleviation of human suffering.

One of the latest Scandinavian hospitals, the Bispebjerg (Fig. 7), at Copenhagen, opened in 1914, combines many of the best features of the German and English models. Located on Bispebjerg (i. e., Bishop's) Hill, which slopes gently toward the south, in general appearance it is a series of two-story pavilions. The semi-basement corridors are so ingeniously screened by plantings and terraces as to be almost entirely hidden. These corridors, which are well-lighted, connect all buildings; and all patients, as well as all food and supplies, are carried through them.

EXAMPLES OF AMERICAN PLANNING.

The American hospitals, as a whole, are hardly comparable with the best European examples, for the reason that nearly every great city, county, or state hospital has been the gradual outgrowth

of small beginnings. While many good things may be found in nearly every hospital, it is very rarely that a complete great hospital has been planned, executed, and administered within one generation. Exceptions to this rule are the Cincinnati General, at Cincinnati; the Peter Bent Brigham, at Boston; the Henry Ford, at Detroit; the new City and County Hospital at San Francisco, and a few others scattered throughout the country. There are many, of course, which have new and complete sections or ward units.

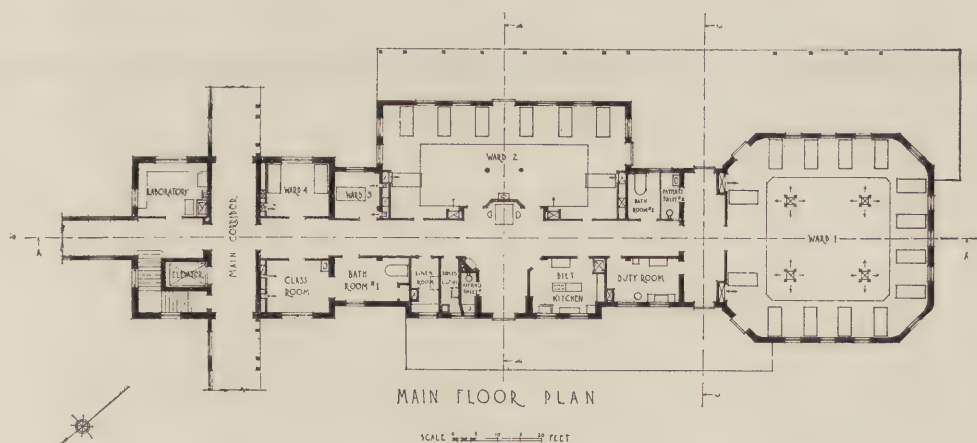
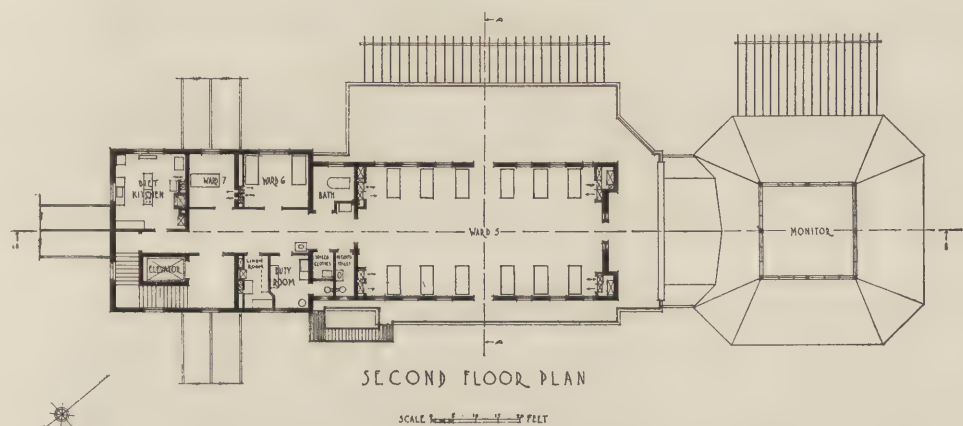
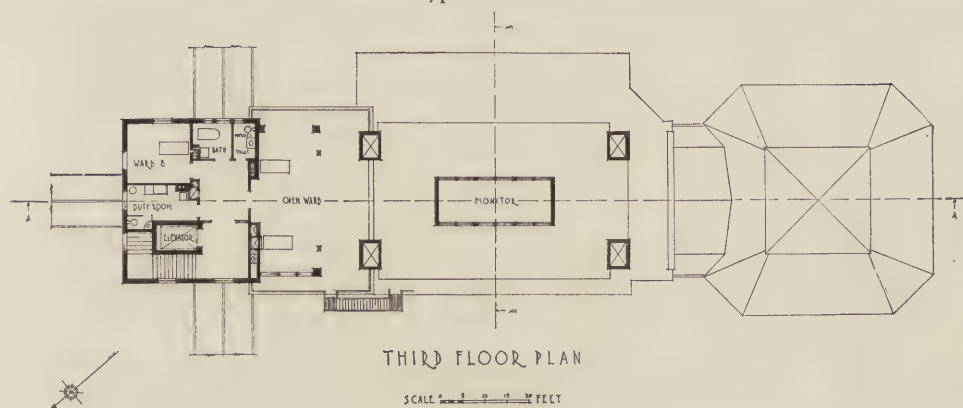
The Cincinnati General Hospital (Fig. 8), built in a suburb of Cincinnati, is one of the largest general hospitals in the United States. Careful study of the best types of European hospitals is noticeable at every turn. The isolated kitchen (Fig. 9) and power plant here employed are found among the best European institutions. The unique ward plan (Fig. 10) combines the best of European and American ideas. The efficiency of the English toilet tower is





FIG. 15. GENERAL VIEW, PETER BENT BRIGHAM, HOSPITAL, BOSTON. CODMAN & DESPRADELLE, ARCHITECTS.

Typical Pavilion



FIGS. 16, 17 AND 18. FLOOR PLANS, PETER BENT BRIGHAM HOSPITAL, BOSTON.
Codman & Despradelle, Architects.



FIG. 19. INTERIOR PAVILION "C," PETER BENT BRIGHAM HOSPITAL,
BOSTON, MASS.
Codman & Despradelle, Architects.



FIG. 20. INTERIOR OF WARD, PAVILION "C," PETER BENT BRIGHAM HOSPITAL,
BOSTON, MASS.
Codman & Despradelle, Architects.



FIG. 21. AIRING BALCONY, PAVILION "C," PETER BENT BRIGHAM HOSPITAL, BOSTON, MASS.
Codman & Despradelle, Architects.



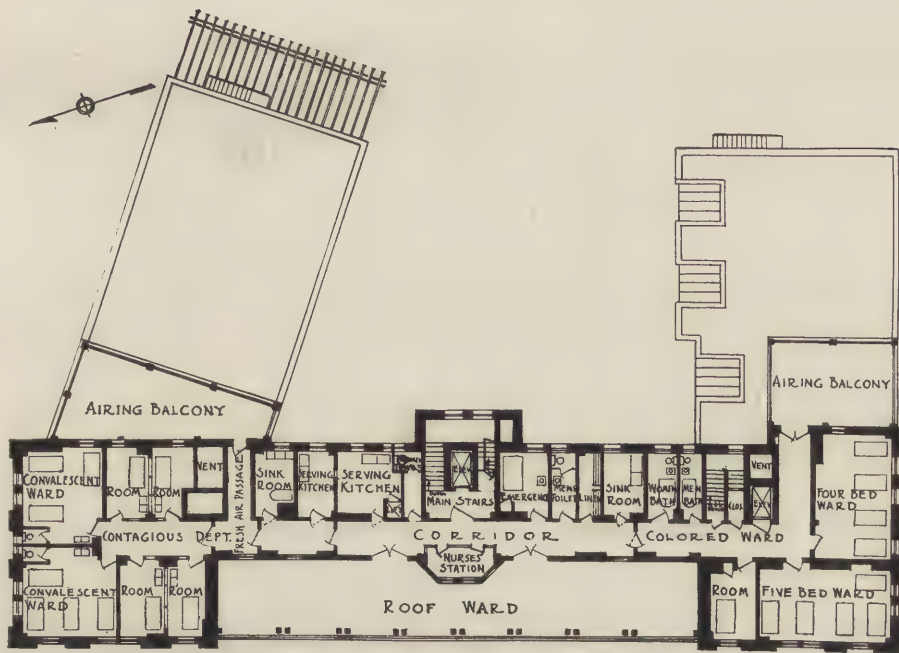
FIG. 22. GENERAL VIEW, OHIO VALLEY GENERAL HOSPITAL, WHEELING, WEST VIRGINIA.
Edward F. Stevens, Architect.



FIG. 23. PLAN OF FIRST FLOOR, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.



FIG. 24. PLAN OF FOURTH FLOOR, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.

SCALE $\frac{1}{4}$ " = 1'-0"

FIFTH FLOOR PLAN

EDWARD F. STEVENS
ARCHITECT BOSTON MASS.

FIG. 25. PLAN OF FIFTH FLOOR, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.



FIG. 26. AIRING BALCONY, FIRST, SECOND AND THIRD FLOORS, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.



FIG. 27. MALE WARD, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.



FIG. 28. CHILDREN'S WARD, OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.
Edward F. Stevens, Architect.

obtained without cutting off light and air. The duty or work room for nurses is centrally located for most efficient service. The elevator and staircases are placed in a separate corridor, minimizing the noises. The general ward (Figs. 11, 12, 13), of twenty-four beds, is supplemented on each floor by three single-bed wards and treatment wards or surgical dressing-rooms. Adjoining the serving kitchen is a generous-sized dining-room for convalescent patients. A large day room or solarium is provided on each floor, and a roof ward on each building, giving ample opportunity for outdoor treatment.

Peter Bent Brigham Hospital (Figs. 14 and 15), one of Boston's most recent and best-studied hospitals, situated, as it is, in close proximity to the Harvard Medical School and other special medical institutions, lends itself to special teaching and research work.

The ward unit (Figs. 16, 17, 18, 19, 20, 21) is based on the terraced pavilion plan, affording the maximum amount of light and air to all patients. A spacious airing balcony upon every floor, so planned as not to shade any other floor, gives outdoor space for all patients.

The domestic building, surgical buildings, nurses' residence, and out-patients' building are well grouped around the administration building which, in itself, is splendidly planned for the purpose.

This hospital has a capacity of two

hundred and twenty-five beds, with every facility for scientific research.

The Ohio Valley General Hospital (Fig. 22) was built on one of the many hills of West Virginia, which made it necessary to utilize the various grades of the streets surrounding the site. An almost precipitous cliff at the north determined the outline of the north wing.

The hospital is a decidedly block type, self-contained institution. It is planned to care for all departments of a general hospital—out-patient, accident, surgical, medical, maternity, children's, contagious—as well as for the segregation of colored patients. It is also provided with heating, lighting and refrigerating plants, as well as a distilling plant for distilling all the drinking water and water used in connection with the surgical departments.

In planning this institution, it was decided to have no wards larger than eight beds, as a better segregation of cases could be obtained than by using large wards. This being a general hospital, both private and charity cases are cared for.

Provision is made on every floor for airing balconies (Figs. 24 and 25) so that all patients can be wheeled into the open air when desired. A large roof ward is provided on the upper story.

The combining of the contagious department with the general hospital within the same walls is practiced here, without any serious complications or cross infections.

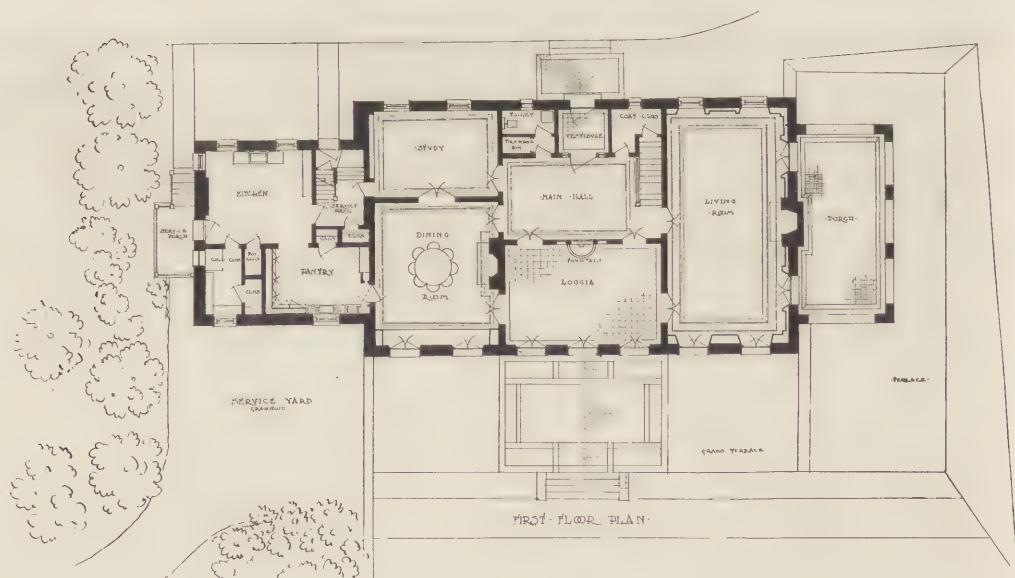


SUMMER RESIDENCE OF E. H. GOLD, ESQ., HOLLAND,
MICH. TALLMADGE & WATSON, ARCHITECTS.

PORTFOLIO OF CURRENT ARCHITECTURE



ROSE



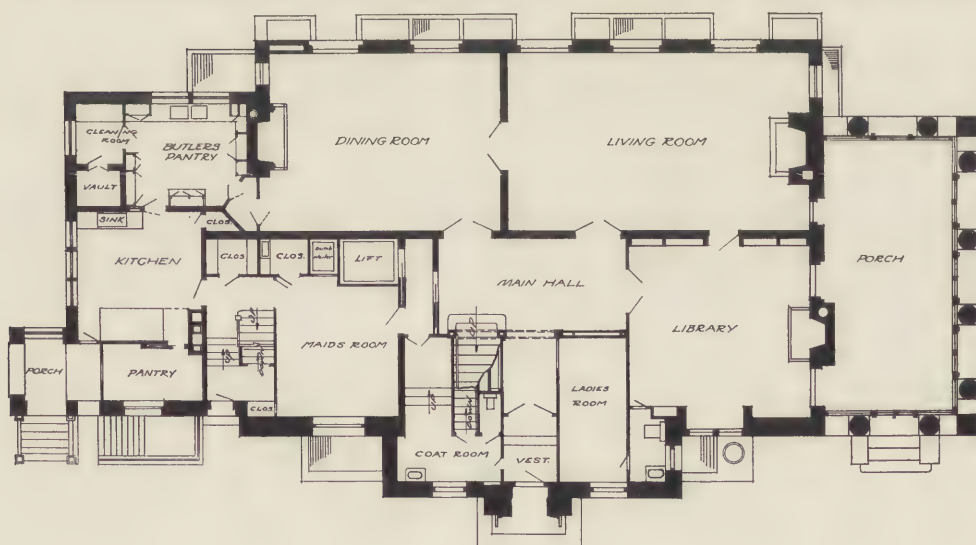
VIEW AND PLAN OF FIRST FLOOR—COUNTRY
HOUSE OF CHARLES M. RICE, ESQ., NEAR ST.
LOUIS. LA BEAUME & KLEIN, ARCHITECTS.



HALL—COUNTRY HOUSE OF CHARLES M. RICE, ESQ., NEAR ST. LOUIS.
La Beaume & Klein, Architects.



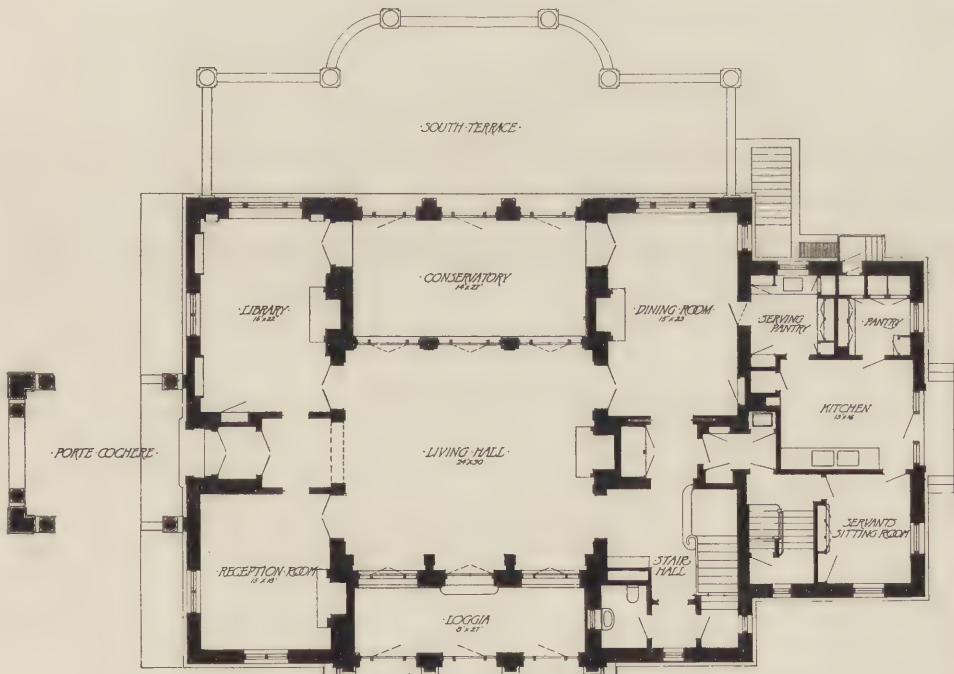
LOGGIA—COUNTRY HOUSE OF CHARLES M. RICE, ESQ., NEAR ST. LOUIS.
La Beaume & Klein, Architects.



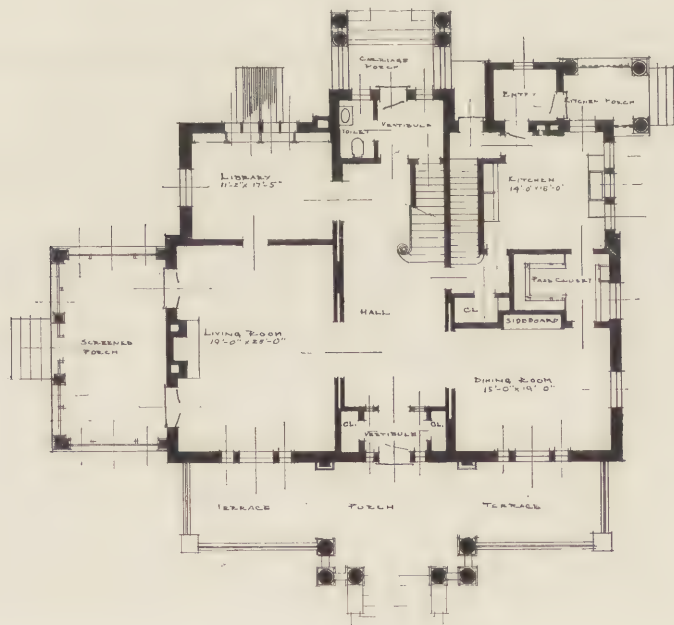
VIEW AND FIRST FLOOR PLAN—RESIDENCE
OF PHILIP H. McMILLAN, ESQ., GROSSE
POINTE, MICH. ALBERT KAHN, ARCHITECT.



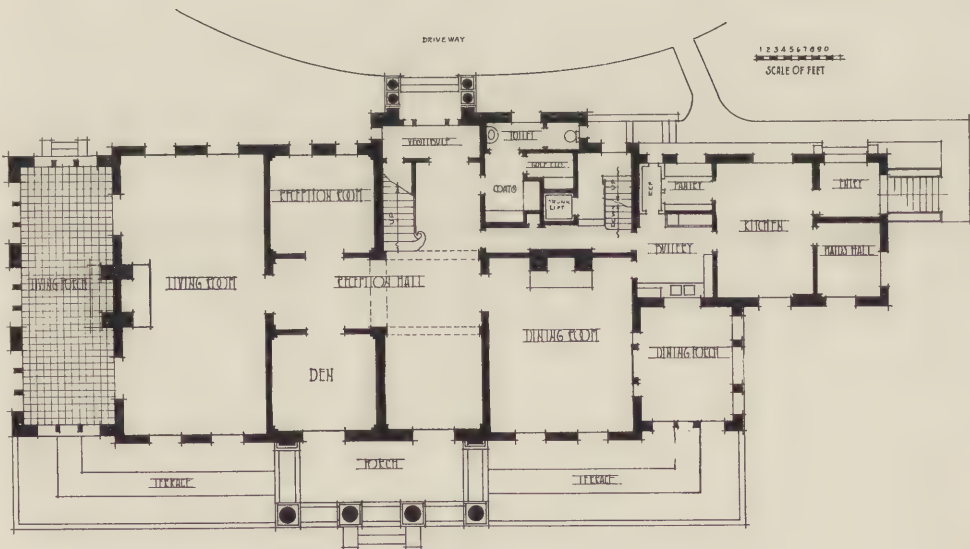
RESIDENCE OF ALBERT L. STEPHENS, ESQ., DETROIT, MICH.
George D. Mason, Architect; Albert C. McDonald, Associate.



FIRST FLOOR PLAN—RESIDENCE OF ALBERT L. STEPHENS, ESQ., DETROIT, MICH.
George D. Mason, Architect; Albert C. McDonald, Associate.



VIEW AND FIRST FLOOR PLAN—RESIDENCE
OF E. C. MUELLER, ESQ., DAVENPORT,
IOWA. TEMPLE & BURROWS, ARCHITECTS.



VIEW AND FIRST FLOOR PLAN—RESIDENCE
OF JOHN F. L. CURTIS, ESQ., HIGHLAND
PARK, ILL. H. R. WILSON & CO., ARCHITECTS.



RESIDENCE OF J. A. McELROY, ESQ., SOUTH ORANGE,
N. J. DAVIS, McGRATH & KIESSLING, ARCHITECTS.



LIVING ROOM—RESIDENCE OF J. A. McELROY, ESQ., SOUTH ORANGE, N. J. DAVIS, McGRATH & KIESSLING, ARCHITECTS.



DOORWAY OF THE WATKINSON HOUSE, MIDDLETOWN, CONN.

COLONIAL ARCHITECTURE IN CONNECTICUT



*Text and Measured Drawings by
Wesley Sherwood Bessell*



PART IV.

COLONIAL doorways survive in great variety of design and furnish interesting material for study. Viewing them with critical attention, one will note that, with respect to paneling, the doors are for the most part quite dissimilar. The panels generally vary in size, and so also do the stiles and rails.

The rails usually differ in width from top to bottom; that is, there is a gradual increase of width beginning at the top rail and ending in the bottom rail. Such are the rails in the door of the Platt house at Merryall. Here the difference is marked and very decided; the same is true of the panels themselves. This variation has a pleasing effect, relieving the monotony of equal rails and

panels. In the door of the old Duke of Cumberland Inn, at Rocky Hill, the rails are all of a size; but the panels are greatly varied, the bottom panels being formed by an interesting curved rail. The doorway to this historic inn has the circular markings, in the frame, of a bullet fired by the Colonial soldiers while passing, who, taking delight in puncturing the sign which hung over the door, missed their mark in this instance. Of further interest is the fact that the brick used in this building were the first made in America. They were made on the ground nearby. The color, while not so charming as that of the imported brick, is very good, and the texture is excellent.

Taking up the circular-headed, mas-

only-set doorways, there are three very good ones at Middletown, Connecticut. The one in the Captain Joseph Alsop house, on Washington Avenue, has side and fan lights of a different design from the general run, and is very pleasing in appearance. A good deal of the interest attaching to it is due to the blinds that are always a desirable factor. The house was built about 1803.

The doorway to the Watkinson house, on Main Street, built about 1802 for John Revel Watkinson, is simple in composition, but has a fanlight of distinctive character and a well paneled jamb, the paneling corresponding to the panels in the door itself.

The third doorway is that of the Ward



DOORWAY OF THE DUKE OF CUMBERLAND INN., ROCKY HILL, CONN. BUILT OF FIRST BRICK MADE IN AMERICA.



DOORWAY OF THE PLATT HOUSE, MERRYALL, CONN.

house, on South Main Street. Here again the shutters play an important part, as they add color. The fanlight has the painted eagle, and the door has a wrought iron knocker, similar in design to those of brass with which we are familiar. It is a very quiet, unpretentious door, but an effective part of the picture; and a picture is what architecture is supposed to be.

The Stiles doorway at Southbury, Connecticut, is refined in its detail and has for a side light an ordinary small window. The diamond-shaped enrichments in the frieze are curious because of their scalloped edges; the sinkage is very slight and the triglyph, so to speak, in which the diamond is worked, has a very slight projection. This motif, it will be noted, repeats over the door head. The paneled soffit of the porch hood is carried out in this manner very often in Colonial examples. The seats at the sides are modern.

The Savage house doorway, at Cromwell, has had a hood built over it and



DOORWAY OF THE ALSOP HOUSE, MIDDLETOWN, CONN.



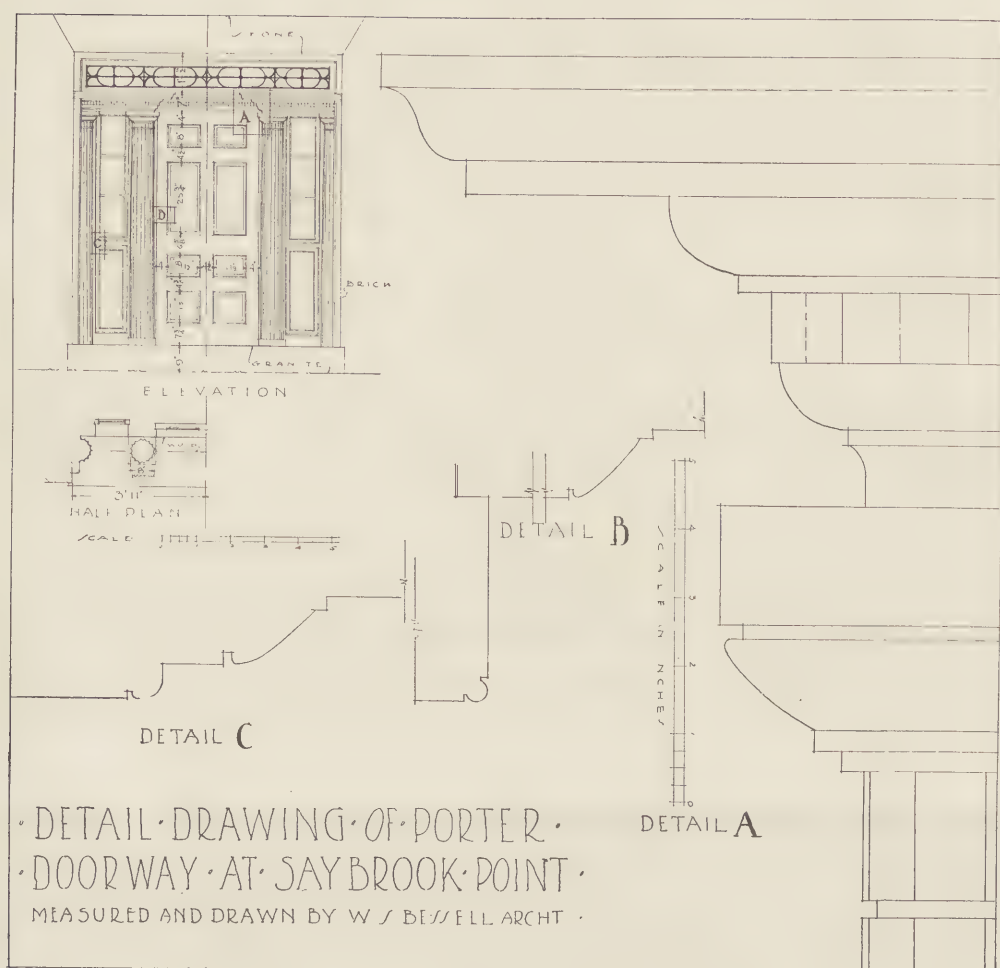
DOORWAY OF THE STILES HOUSE, SOUTHBURY, CONN.



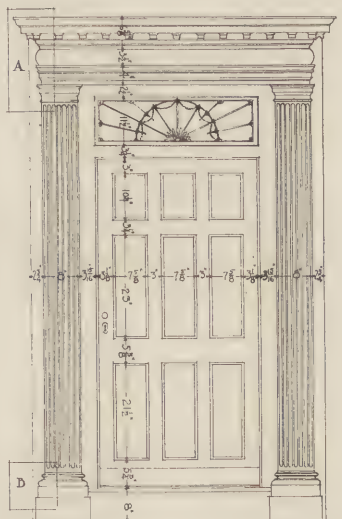
DOORWAY OF THE SAVAGE HOUSE, CROMWELL, CONN.



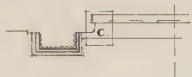
DOORWAY OF THE L'HOMMEDIU HOUSE, CROMWELL, CONN.



DETAIL DRAWING OF DOORWAY
OF THE PORTER HOUSE.



ELEVATION



HALF PLAN

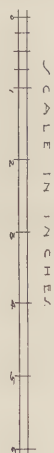
SCALE 1/4" = 1'-0"

DETAIL B

DOOR

DETAIL C

DETAIL A



DETAIL DRAWING OF DOORWAY STARKEY HOUSE AT ESSEX CONN

MEASURED AND DRAWN BY W. S. BESSELL ARCHITECT.

DETAIL DRAWING OF DOORWAY
OF THE STARKEY HOUSE.

a new five-paneled door in place of the old one. Aside from this the doorway is in its original condition. It is similar to some of the Weathersfield doorways. Still another doorway in Cromwell is that in the L'Hommedieu house. The pilasters here, while not in proportion according to their height, are interesting because of the small bands which break up what otherwise would have been a long, narrow surface. Such bands are infrequent in wood work.

The side door of the old "Glebe" house in Woodbury, unaltered and in the original state, was built in 1771. The panels of the door are changed in their relations, one to the other, by placing three panels across the top portion, two at the centre, and repeating the three again at



SIDE DOOR OF THE OLD "GLEBE" HOUSE,
WOODBURY, CONN.



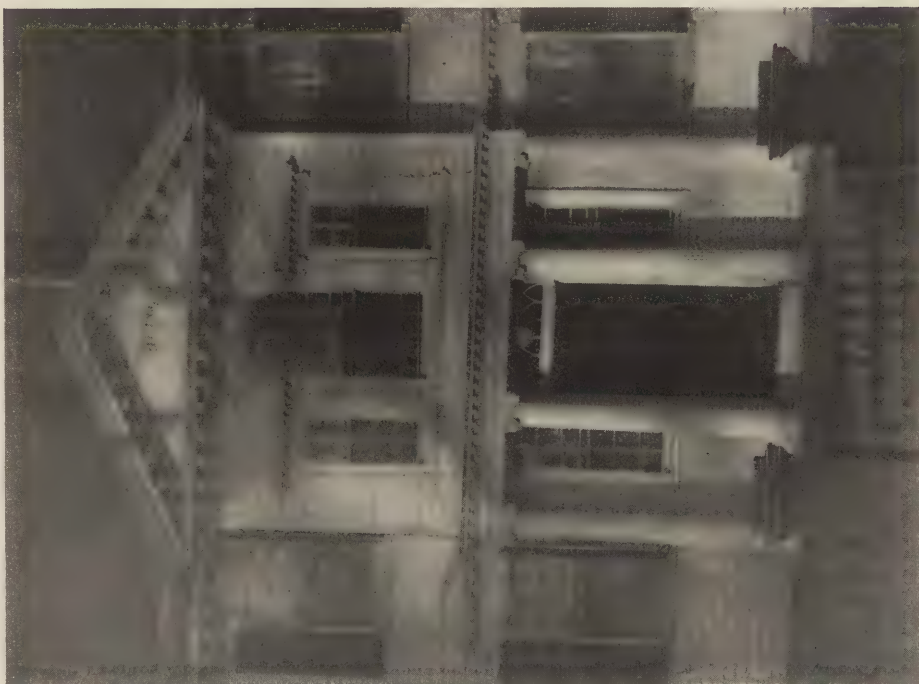
DOORWAY OF THE TAYLOR HOUSE,
MILFORD, CONN.

the bottom. It was in this house, in conference, that the first Episcopalian bishop was selected for the State of Connecticut, the first Episcopalian bishop in America. The corner board is of interest, being different in type from those usually applied to Colonial houses, except in certain localities; very broad, with the moulding returning across at the top and down on the front side.

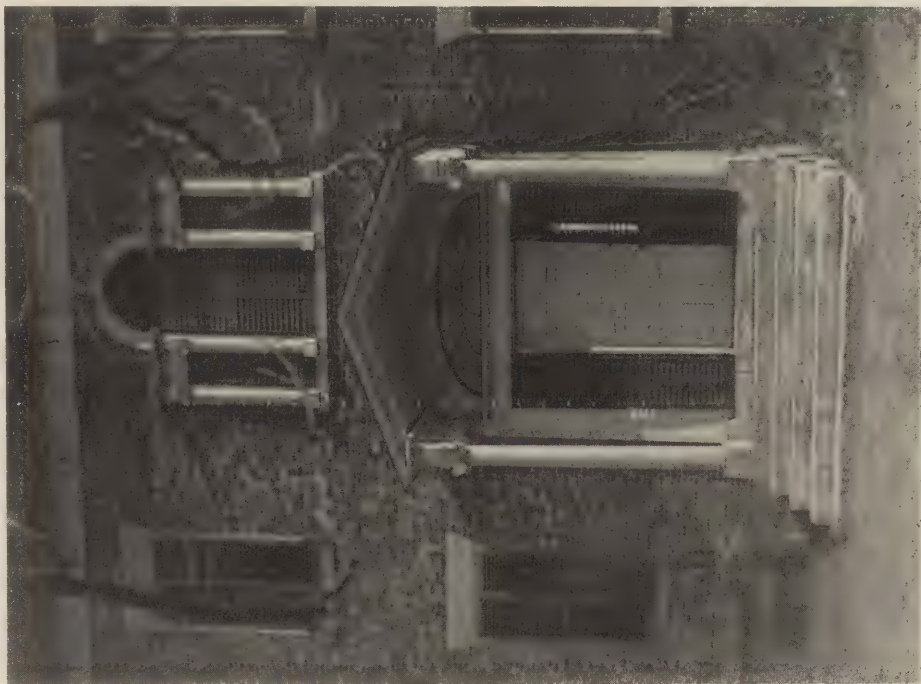
The Sheldon doorway, at Litchfield, of a type more pretentious with its two-story motif, can boast of more expenditure of wealth than most of those shown, and was the pattern for many similar designs.

The Starkey house, at Essex, with a beautifully paneled door and fanlight, all composed and set into the pilaster treatment, is noteworthy; different from all others, yet surely Colonial, it is very well designed. The entablature, not broken over the pilaster but carried straight across, is rather unusual for this type of door.

The Porter doorway, at Saybrook Point, was illustrated from a photograph



DOORWAY OF THE SHEDON (?) TAVERN, LITCHFIELD, CONN.



DOORWAY OF THE NORTON HOUSE, GOSHEN, CONN.

in a preceding article (June, 1915, page 555). It is here shown in measured detail. The details, as I said before, are heavy, but could with a little thought be refined and made very delicate.

After these came the doorways of the Classic period, of which the Taylor house doorway is a good example. The paneling and beaded moulding in the pilasters are characteristic of that period. Refinement was gradually cast aside for heavy detail and large columns, mostly of a blocky nature, became more and more frequent towards the end of the

Classic period, which was followed by an interval of architectural chaos.

During the Colonial era the doors were placed where their usefulness was most needed, in the centre usually for the main entrance. Other doors were placed where needed for convenience. What an ideal thing it is to picture the door leading directly from the dining room out onto the lawn or into the garden. That is what was done then, and why not do it now? Make your garden come into the house through the smaller doors, not necessarily the front door.



DOOR OF THE WARD HOUSE, MIDDLETOWN, CONN.



Personal Reminiscences of
CHARLES FOLLEN MCKIM

— By Glenn Brown —



*McKim and the
Park Commission*

SOME time early in 1899, soon after I became Secretary of the American Institute of Architects, I was introduced to McKim at the Century Club, New York. Asking several of the artistic members to join us, he retired to an easy corner, where the possibilities of a betterment of the fine arts were discussed for several hours.

In this connection I lauded the beauties of the L'Enfant plan of Washington City. I had been studying this plan in connection with the history of the United States Capitol, which I was writing at the time, and urged the feasibility of returning to it in the future development of the city. The radial streets, location of important buildings, vistas and reciprocity of sight between points of interest, together with the intelligent and artistic treatment of the Mall, making the city a harmonious artistic composition, were brought to the attention of McKim and he became very much interested, questioning me on various details.

The discussion brought out the fact that for seventy years or more the plan L'Enfant and Washington had left us had been ignored in the haphazard placing of buildings and the individual treatment of parks, so that the city was fast losing its character as an artistic composition. McKim forcibly expressed his regret that this great plan should be destroyed by indifference and want of knowledge. Then we discussed the great need of a commission to study and plan a scheme for the future growth of the National Capital. I left him determined to make a demonstration that would arouse the attention of thoughtful people to the crime our nation was committing.

The convention of the American Institute of Architects, to be held in Wash-

ington in 1900, was considered the proper occasion to bring this question to the attention of Congress and at the same time arouse the interest of the people.

Robert S. Peabody, who was president at that time, heartily endorsed the idea. Six or seven months before the convention we began mapping out a plan and gathering data and information for the speakers and securing prominent architects and landscape architects to study and submit papers to the convention. All sessions of the convention were arranged so they had a bearing upon city development. The newspapers of Washington gave columns to the subject. The government considered the papers read at this convention of sufficient importance to publish them, thoroughly illustrated, as a public document. The volume was in such demand from this country and Europe that the edition was soon exhausted and now it is a rare document.

Senator McMillan, Chairman of the District Committee of the Senate, upon the question being brought to his attention by Charles Moore, his secretary, now Chairman of the National Fine Arts Commission, appreciated its importance and promptly requested a committee of the Institute to confer with him upon the subject. After this hearing the Senator determined to present a joint resolution authorizing the appointment of a commission to study the future development of the city. As the House would not join with the Senate, although earnestly urged to do so, it was finally passed as a Senate measure. Following this action of the Senate a request came that the Institute suggest names for a commission. The advice of the Institute secured the appointment of the Park Commission—Burnham, McKim, Saint

Gaudens and Olmsted. I had a long talk with McKim, when he came to Washington to attend one of the earlier meetings of the commission. He was already enthusiastic on the beauty and magnitude of the problem. His mind was centered, as was usual with him, on this one topic. I gave him material bearing upon the history of the city which I had collected for my history of the United States Capitol Building.

After a thorough study of Washington City and the surrounding country, the commissioners made a trip to the large estates on the James and Potomac to saturate themselves with colonial feeling and made a visit to Europe where they studied the streets, parks, buildings and planting of the great cities abroad. They then established a drafting force and office for this special work over the offices of McKim, Mead and White in New York.

In this office the designing and drawing of the proposed development of Washington went on under McKim's direction, and from whispers I have heard his private affairs were ignored at this time.

The commission had never considered the problem submitted to them and had only a limited knowledge of the city, its history and surroundings, when they began their labors. They were instructed to devise a scheme for the future growth of the city without reference to what had been done. It is interesting to know that after long study they recommended that the treatment of the center of the city and the grouping of buildings should return to the plan of L'Enfant. Where reclamation of the Potomac marshes added to the park area, they advised that it should be designed in harmony and form a part of the original plan. McKim, all agree, was responsible for the design of the Mall section of the plan, the central and most important feature upon which the whole composition rested.

The general scheme of the Park Commission* contemplated a vista between

formally planted trees from the Capitol to the Washington Monument, with rows of classical buildings, 450 feet from the axis as shown in L'Enfant's plan. The commission extended the axis through the Monument, over the new-made ground to the Potomac River, where they located the Lincoln Memorial.

The statue of Grant was placed in an open square at the foot of the Capitol grounds at the beginning of the east and west open vista. There was a cross vista north and south from the White House over the Monument garden to a monument to the Constitution Makers. The Washington Monument had not been placed as shown by L'Enfant, at the intersection of the axes from the Capitol west and from the White House south. McKim's skill and genius are shown in his treatment of these two axes so as to again bring the Washington Monument into the composition.

The treatment of the base and surroundings of the Washington Monument, one of the most important elements in the plan, the center of the composition, had given McKim and other members of the commission much thought and study without arriving at a satisfactory solution. It was in Italy that McKim saw an obelisk standing on a horizontal terrace, when he exclaimed, "That is the treatment for the base of the Washington Monument."

The other commissioners rejoiced, for a solution had been discovered. Their plans show this great horizontal terrace, 1,200 feet long, befitting the dignity and scale of the Washington Monument, and bringing it in harmony with the terraces of the Lincoln Memorial now being erected on the shore of the Potomac.

The Park Commission drawings were first publicly exhibited in the Corcoran Gallery, Washington. McKim was not satisfied with the colors of the wall or the height of the ceiling in the exhibition room and felt that they would destroy the effective display of the drawings. For this reason the walls and the background were draped and a false ceiling of draped unbleached cotton was put in to obtain what he considered the proper effect.

*The more important plans and drawings of the commission were published in the *Architectural Record* for May, 1902, in an article by Montgomery Schuyler entitled "The Art of City Making," which reviewed the work of the commission.

The locations of the drawings on each side of the room were studied in the office and diagrams made showing the place for each drawing. After many of the drawings were hung according to the diagram McKim concluded that the scale of one interfered with the scale of another and that the color in some overshadowed and destroyed more delicate neighbors.

With him to see an error—and no one was quicker to see or better able to judge an artistic fault—was to rectify it, no matter how great the trouble to himself or his assistants. Although Roosevelt was to open the exhibition to the public the next day, we all went earnestly to work changing and rehangng the drawings under McKim's directions as to color and scale, and this rearrangement was finished in the early morning hours to his satisfaction, while we were all rejoicing in our labor, as it added vastly to the value and character of the exhibition. The platform on which models of the city were shown was raised so the models could only be seen from the ordinary eye line. In the morning the value of the artificial lighting was studied and modified to suit each drawing.

The time of the opening was upon the party and the rooms were not cleared of paper and other debris. The building force was actively engaged in this work, but could not apparently get through in time. McKim, several prominent architects and a noted physician, a friend of McKim, all lent a hand cleaning the trash out of one door as Roosevelt entered with many of his Cabinet and Senators at another door. McKim retired, leaving the official descriptive part of the exhibition to Burnham and others.

Roosevelt from this occasion gave his hearty support to the Park Commission plan. This plan was approved by the Senate through the efforts of Senator McMillan, but was never approved by the House, principally because of Speaker Cannon's opposition. For this reason it never became a legal plan for the future development of the city. But it immediately became a great moral force, producing results in the character and location of monuments and buildings and in the treatment of parks.

Although there have been constant and powerful efforts to change material features of the scheme in the last twelve years, these efforts have been uniformly unsuccessful because of the moral influence of this plan.

One of the first moral effects of the scheme was the removal of the railway station from the park. The commission was instructed by Senator McMillan that any suggestion they had to make or any design they should submit for the future treatment of the Mall must take into consideration the location of the Pennsylvania Station as a settled fact, recent legislation having given the railroad company four squares across the Mall, cutting the Mall into two parks between the Capitol and the Washington Monument. The commission was told that as the station site was a fixture and could not be moved, it must be included in any design submitted. Burnham, the chairman of the new commission and the architect for the new station, had already prepared sketches to cover the four squares with a new station. McKim, who was studying this section of the plan, soon saw that nothing satisfactory could be done with the Mall if the station cut the park into two sections. McKim saw that the new station would destroy the continuity of the park and separate by a positive barrier the Washington Monument from the Capitol, thus obliterating the noble vista contemplated in L'Enfant's plan.

Burnham saw that the beauty and value of his work as commissioner would be lost if he carried out his contemplated scheme as architect of the railway. He was broad enough to see that the value of the park was more important than the location of the railway station. He immediately had a conference with President Cassatt to discuss the importance of the park as a national asset and the impossibility of securing good results if the station divided it into two parts. At the first conference, while Cassatt ridiculed the idea of the railroad giving up a large tract of land just secured in the center of the city, he promised to give it consideration. At the last meeting he promised to exert his influence to move the station.

Senator McMillan gave way to the

gineering corps had marked out this new line on each side of the Mall by small red flags.

With the new line laid out and conspicuously marked, Roosevelt and the Senate Committee of the District of Columbia were invited to see the magnificently wide area. As closing the vista had been blocked because it was not according to the plan, the President and the committee were informed that this was in conformity with the scheme, only a little—300 feet—narrower. They were requested to see by the flags that the six hundred feet was wide enough for anything. The President and the committee, after viewing it, agreed that the space was “wide enough for anything.” It was at this stage that it came to my knowledge and I immediately called McKim’s attention to what was being done. At first it was thought that the Secretary of War, Mr. Taft, had jurisdiction over the Agricultural grounds, and McKim and others of the Park Commission called upon him, explained the condition and he agreed that he would have the building set back four hundred and fifty feet from the center line. McKim came to my office, saying that the matter was settled and Mr. Taft would see that it was done properly. While we were rejoicing over the easy victory a telephone call asked if I knew where Mr. McKim could be found. “He is here,” I said; “I will call him to the phone.”

The message was from Secretary Taft, saying that he found the War Department had no jurisdiction over the Agricultural grounds, which were under the control of the Secretary of Agriculture, and the President was the only one who could interfere.

An interview was then arranged with Roosevelt, who said at this meeting: “They told me it was according to the Park Commission plan, just a little narrower, but wide enough for anything.”

“This narrowing between building lines on the Mall,” McKim replied, “would destroy the whole effect. Don’t you see, Mr. President,” showing him the plan, “when we plant the quadruple row of trees in front of the buildings, north and south of the Mall, the principal feat-

ure of the composition, the open vista shown on L’Enfant’s plan, between the Washington Monument and the Capitol will be destroyed?” “I wish,” Roosevelt said, “I had known this before, but I have given my assent to the six hundred feet scheme, as the engineers told me it would be ‘wide enough for anything,’ and only a slight modification of the park plan.

“Now, if you will take this up with the Senate and get them to approve the nine hundred feet between buildings, I will have an opportunity to reconsider.”

McKim called on Senator Newlands, who arranged for a hearing before the District Committee of the Senate.

Before the meeting of the committee McKim and I called upon Senator Gallinger and he informed us that the matter had been submitted to the committee, they had been down to the Mall to see it as marked by the red flags, and it was in conformity with the Park Commission plans, while it was a little narrower it was “wide enough for anything.” Although the committee had made up their minds Senator Newlands insisted on giving McKim and others a hearing and Mr. Gallinger yielded.

The drawings of the Park Commission showing this section of the Mall were taken over to the committee room and hung upon the wall. Sketches were made showing the disastrous effect of decreasing this open space from nine hundred to six hundred feet, and hung with the other drawings. McKim called upon Burnham, Post, Olmsted, Saint Gaudens, Frank Millet and others to defend this insidious attack upon the integrity of the Park Commission plan. Several members of the committee informed us that they had inspected the open space as shown by the line of flags and considered it “wide enough for anything,” and they really did not see the use of a hearing, as they had made up their minds.

McKim, Burnham, Saint Gaudens, Post and others explained from the drawings the disastrous effect upon the composition—the destruction of the scheme as originally laid out by George Washington and L’Enfant.

After a short discussion by members



PHOTOGRAPH OF THE PARK COM-
MISSION'S MODEL, LOOKING EAST.



PHOTOGRAPH OF THE PARK COM-
MISSION'S MODEL, LOOKING WEST.

of the committee they voted to disprove the six hundred feet scheme and determined to introduce a resolution in the Senate that no building in the future should be erected on the Mall inside of a line four hundred and fifty feet from a line drawn from the center of the Capitol to the center of the Washington Monument. This was according to the plan of the Park Commission.

This resolution was presented by the Committee to the Senate and passed without opposition. After this action of the Senate Roosevelt ordered the building line of the Agricultural Building placed four hundred and fifty feet from the axial line between the Monument and Capitol. This was a great victory and morally fixed the future building line in accordance with the plan.

It may be thought that this action would have settled the question of the location of the Agricultural Building, but there was more trouble in store. The engineer in charge, with the approval of Secretary Wilson, laid the building about a hundred feet farther east and fixed its ground line some eight feet higher than the Park Commission indicated. I recollect well going down to the Mall with McKim, where we spent several hours studying the question on the ground, McKim pointing out the fact that the location east would throw the composition out of balance. The point that disturbed McKim most was the intention to raise the ground level, which would have thrown the base of this building above the base of the Washington Monument. He said, "one of the most important elements in the Mall plan is the continuous up grade from the Grant Statue to the Washington Monument; any grade leading first up and then down would have the effect of shortening the vista and of cutting off portions of the Monument. If the Agricultural Building is erected as they propose," McKim said, "it will establish a hill that will destroy the effect of the Mall."

His explanation recalled to my mind the unhappy result of such a hill on the main axis in the Buffalo Exposition, where the effect of distance was lost and

the beauty of the electric tower seriously marred.

McKim said to me, "if they do not change their foundation, the excavation being done, I will resign from the Park Commission, as the beauty and effectiveness of the composition will be destroyed."

The President was the only one who could overrule the Secretary of Agriculture. Roosevelt appreciated the importance of having this building located just right, so he called together the Secretary of Agriculture, the Park Commissioner and Engineer Officer. Roosevelt listened to McKim's explanation and plea coldly and then gave McKim a lecture on the lack of consideration shown by architects in coming to him proposing changes in work that was well under way.

Mr. McKim, abashed, thought his cause lost. Wilson showed his pleasure at having the inconsiderate idealist and artist put in his proper place. Roosevelt, turning to Wilson, said: "Mr. Secretary, although the architect has not shown consideration for material things this matter is very important in the after effect on the landscape, and as I think him more capable of judging what these effects will be than we are, I believe it will be better to trust his judgment; if you don't object we will give way to him."

"I will do as you wish, Mr. President," said the Secretary, "if you will take the responsibility."

"I will assume the responsibility for making the change," Roosevelt replied.

The engineer in charge made the necessary changes in location and grades changing the foundation excavation, and the building was erected in its proper place, according to the general scheme.

McKim from the time he was appointed one of the Park Commission until his death, took an active interest, and participated in every step taken to carry out this plan.

In the Grant Statue, where a strong influence wanted it placed south of the White House, he and Saint Gaudens, as members of the jury, selected a design that would fit in appropriately west of the Capitol at the foot of the Mall and

opposed its location on the plaza of the Union Station and White Lot. After a rather vicious attack by opponents of the park, publicity by the Institute and the firm backing of President Taft, the Grant Memorial was located and has been erected as shown on the park plan.

The effort to locate the Lincoln Memorial at the Union Station, in the Soldiers' Home, and on Sixteenth Street hill, became very bitter and McKim actively participated in the early campaigns against all sites suggested except the one suggested in the Park Commission plan. Representatives who opposed the park plan proposed a second expert commission with the idea of defeating the whole scheme.

Representative McCall introduced a bill in which McKim would have been one of the experts. McKim's influence was so great and his opinion was so much valued, that they were afraid to openly oppose his idea, but by this new Commission they hoped to have him committed to a change by the action of a majority. Frank Millet and I were with him when he was requested to serve on that new commission; although an invalid at the time, and only a short time before his death, he was very anxious to prevent a false move in the placing of this great monument.

He dictated a strong letter to Representative McCall stating that he must decline to serve on any commission to restudy this question, as during ten years he had given the subject close study, and considered the site suggested by the Park Commission the only site of sufficient dignity and importance in the District of Columbia for the Lincoln Memorial.

The final campaign to change the memorial from a structure on the Mall to a roadway to Gettysburg was made and won after McKim's death, and I have often thought of him in the spirit world watching over and rejoicing in our success. The Lincoln Memorial is now being erected on the site suggested in the Park Commission plan, leading more certainly to the completion of this great

composition in accordance with McKim's idea.

The effect of the presentation of the Park Commission plan gave a most remarkable impetus to the important subject of orderly city planning. It was the first report of the kind made in this country and was one of the most thorough, comprehensive and beautiful that has ever been presented.

The enthusiasm aroused by this report has caused more than a hundred towns and cities to undertake the study of their future growth, in many cases with satisfactory results.

Although this plan has never been made a legal plan it has been a great moral force, strong enough to move the Pennsylvania Station from the Mall; strong enough to place the Agricultural Building and the new National Museum on their proper sites; strong enough to place the Grant Monument west of the Capitol; strong enough to guide the Daughters of the Revolution, the Pan-American Bureau and the Red Cross to build their buildings in accord with the plan; strong enough to influence a divided Congress to build their new office structures where designated on the plan; strong enough to fix the sites for the new departments of Justice, Commerce, State and the new Bureau of Engraving.

Strong enough to overcome the attractive effort to memorialize Lincoln by a roadway to Gettysburg instead of with a classic structure on the shore of the Potomac where it takes its place with Grant and Washington.

McKim, the most enthusiastic, the most untiring, the great designer, I have always felt must be given the greatest credit for this great city design, and he must look down upon us with approval as the plan matures and crystallizes, from the moral force which it still exerts, and which I feel it will continue to exert as the city develops.

Let us hope that this influence will become so strong that Congress will make legal the Park Commission plan for the future development of the city.



BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BAGH

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Part II.—Secular Buildings (Continued)

THE secular buildings of our formative period, as yet inadequately recorded or even described, should be placed in our history in the years preceding 1825. To be sure there are structures of Colonial character which were erected subsequent to that date, as there were likewise a few humble brick buildings of even earlier Dutch origin, but we begin to feel the effects at an early date of the inexorable formalism of the Greek revival, which fastens upon the primary classic elements metamorphosed by the Colonial carpenter's careful work into a new type of expression, and eliminates all life and graces at the expense of a painstaking study of actual classic examples still extant in Europe. Even Jefferson records his desire to see certain forms, such as, for instance, the capitals of the Maison Carrée at Nîmes, duplicated in the buildings of his own time.

In point of time New York City has the honor of erecting the first permanent public building in this country. Its first City Hall was erected to take its place as a lasting civic edifice. Its site was at the end of Broad Street; the date of its foundation was 1700. This building was destined to be the municipal centre of New York until 1811, when the present

building by John McComb was inaugurated. For a short time it served, under the name of Federal Hall, as the National Capitol. Plans for this early building were drawn by one "James Evetts, Architect," in 1698, a gentleman at least not unwilling to be known by that euphemistic title for the more workaday mason or carpenter. Even at a much later date we find signatures indicating that the signers were carpenters and architects, the latter word haltingly added and all reliance placed upon the practical side of their ability. Evetts' scheme was not unlike that of John McComb for the excellent building that still serves as New York City's City Hall. It was disposed in the form of two heavy end masses or wings, with recessed connecting link. This firstling among municipal buildings was enlarged for the occupancy of Congress by Major L'Enfant, the planner of the city of Washington, who added a low attic story, altered the roof, brought out the recessed connecting link to the frontal plane of the wings, and built on a Roman Doric portico across the facade, raised to a height of two stories and projecting twelve feet. The federal function of the building was symbolized in the ordinance of the entablature of this

portico by the subdivision of its frieze into thirteen metopes, each bearing a star in relief. It should be noted that an inconsistent tradition assigns the work of McComb to a Frenchman named Mangin.

At the present capital of New York State one Seth Geer produced the Albany Academy, an attractive edifice reminding strongly of the general character of the City Hall in New York, both displaying a decided French indication, undeniably suggesting the style of Louis XVI. One critic renders plausible the belief that both buildings could have been the work of one man, a draftsman of foreign training, probably of French extraction, employed by the two untraveled Americans to whom the designs are now ascribed. This might make possible the connection of the name of Mangin with both structures just recorded.

The oldest of the secular buildings in Philadelphia is Independence Hall, which owes its foundation to the year 1731. The architect, James Hamilton (also quoted as Andrew Hamilton), was a lawyer. Thus we have another echo of the dilettante in architecture, harking back to the memorable days of Lord Burlington and his followers, to whom English architecture unhesitatingly acknowledges its debt. The building measures one hundred feet in length and is flanked by the old City Hall of Philadelphia and by Congress Hall, which was used as a sort of office building during the War of Independence. Another noteworthy secular structure in Philadelphia, illustrating the rigid conservatism in design which characterizes so many of these early buildings, is Carpenter's Hall, which dates from 1770.

Among the important secular buildings in the Southern states, Virginia still preserves the Court House and old College of William and Mary at Williamsburg. Of these the former is alleged to be the design of Sir Christopher Wren, to whom many a church tower in this country was ascribed, even though erected long after his death, while the latter is the third building upon the same site, fire having taken its toll of the two earlier homes of the institution. There were a few other buildings of note, chief among

them the old Capitol of 1723, but this was likewise destroyed by fire in 1832. Jefferson's architectural zeal and ability are responsible for the Capitol at Virginia's present government seat, Richmond. This has been considered his own design, but for this assumption there is at the moment no adequate proof at hand. As the founder of the University of Virginia, he was much interested in its buildings and it may be stated conclusively that their design is without reservation his own. They date from 1819 to 1826 and the conception was in great measure realized during Jefferson's lifetime. The University of Virginia assuredly presents the first conscientious group plan for institutional or other secular buildings of any size in this country, but its design offers presentiments of the formalism of the Greek Revival that was soon to begin the new and short lived gamut of historic styles, which represents in great measure the nineteenth century's contribution to architectural history.

What, then, is the literary record of these important public and other secular buildings? We have mentioned only the most eminent examples, but even these, with one exception, are inadequately reproduced in book form. The vast majority of them do not appear in published plates or text at all. The general works mentioned in an earlier paper may again be referred to, and occasionally plates may be found in the books by Wallis, or in the volumes dealing with Colonial architecture on a regional or geographic basis, such as Chandler's *Colonial Architecture of Maryland, Pennsylvania and Virginia*, Upjohn's *Colonial Architecture of New York and the New England States*, or Cleaveland and Campbell's *American Landmarks*. An especially valuable work in this respect is that by Joseph Patterson Sims and Charles Wilting entitled *Old Philadelphia Colonial Details*. This is a carefully selected collection of fifty-five plates, measuring thirteen and one-half by eighteen inches, and including five good sheets on the subject of Independence Hall (1733). The work in this volume is so thoroughly done that one regrets again that so little space was granted to this all important

monument. Furthermore, a number of the buildings studied are of Georgian tendency and cannot in the narrow significance of our title be classed purely as Colonial. In this connection likewise should be mentioned the volume on *New England Georgian Architecture* by Ralph Clarke Kingman and that on *Georgian Architecture of the District of Columbia* by Henry Francis Cunningham, Joseph Arthur Younger and J. Wilmer Smith. The first of these contains fifty-five plates, measuring fourteen by seventeen inches, including thirteen sheets on Faneuil Hall, Boston (1740), and on the old House of Representatives in Bulfinch's Massachusetts State House (1795). These plates are also very carefully handled. The same may be said of the second of the volumes mentioned, though this is concerned chiefly with the full fledged Georgian manner that was finally to modify completely the earlier true Colonial phase of American architecture.

But the only compendious record of any consequence for any of those buildings is the de luxe *History of the United States Capitol*, published by the Government Printing Office as Document 10 of the Senate for the first session of the fifty-sixth Congress. This work was undertaken by Mr. Glenn Brown at the request of Senator McMillan, after a series of articles in the *American Architect and Building News* of Boston on the subject, running through a whole year, had been referred to him by Dr. Charles Moore, now Chairman of the Fine Arts Commission. It appeared in two volumes of folio size; the first, entitled "The Old Capitol 1792-1850," was issued in 1900; the second, without subtitle, appeared in 1903. The book is of the utmost value historically. As the record of a splendid building it has an intrinsic worth not equaled by any other extant work on a single building, or even on a group of buildings, of the Colonial time. In addition, it is an undertaking in the field of research of fine calibre and absolute accuracy, the sort of history that many of our early buildings deserve but which has been granted to but one. We cannot speak too highly of Mr. Brown's careful study and arrangement of his

material, the latter gathered during a period of unremitting search covering the space of ten years. The volumes are complete in every particular and the numerous illustrations and folio plates—there are over three hundred—make the variegated history of the Capitol doubly interesting by the reproduction of time-worn drawings, structural details indicating the setting up of the metal dome, and drawings showing interior decorative schemes. In the introduction Dr. Charles Moore compares the National Capitol with the Gothic cathedrals of Europe in that its "surpassing merit is not its completeness, but its aspirations. Like them, too, the Capitol is not a creation but a growth, and its highest value lies in the fact that it never was, and it never will be, finished."

Thornton's original design, selected as the best in two competitions, was the first expression of our national purposes in the way of a central building and Congressional meeting place. Thornton's scheme was not long left in peace; his superintendent of the work, Hallett, altered it. Thus begins what may be called the hegemony of superintendents in the design of the Capitol. Others may have been more gifted men than Hallett, but the desire to leave a personal impress upon the great national structure seems to have blinded several of these masters of construction to their proper duties; what is more, there seemed to be no power great enough to hinder Hallett or his successors, Hoban and Hadfield, all three not hesitating to tamper with the accepted design to suit their ends. Very important in the Capitol's history is the work of Benjamin H. Latrobe, undone in great measure by the conflagration for which the British forces were responsible in 1814. Subsequently, Charles Bulfinch, who had already risen to the very head of his profession by distinguished work in Massachusetts and elsewhere in New England, was appointed architect of the building. When the original plan was found too small for the greatly increased business of the nation and large extensions were decided upon, the designs of Thomas U. Walter were found acceptable. These were put into execution, or

at any rate, the extension and remodeling of the building was begun, about a decade before the outbreak of the Civil War, during the administration of President Fillmore. Upon Walter's retirement, the task was assigned to Edward Clarke, who conscientiously supervised the realization of his predecessor's intentions, and upon whose suggestion Frederick Law Olmstead was appointed landscape architect for the Capitol grounds. A number of minor architectural features incidental to Mr. Olmstead's plans were designed by Thomas Wisedell.

Beyond recounting in full the history of the Capitol from the standpoint of design and mass additions, Mr. Brown is also careful to record the multifarious details of changes in lighting, heating, ventilating, minor decorative features, furniture, paintings and sculpture. In fact, it is doubtful that such an itemized schedule of infinite detail has ever been attempted in the case of any other American building, though similar records are more frequently available in connection with important edifices in Europe.

To be sure the volumes carry us far beyond the Colonial time; the first volume itself covers the period up to 1850. Still we have no scruples in considering the nucleus of the present Capitol essentially Colonial in spirit as well as in character of design, for Washington himself laid its corner stone.

But what of the life stories of the other public buildings mentioned in our brief review above? The history of the City Hall of New York or of the Massachusetts State House has yet to be written. A letter of inquiry sent to a number of eastern cities elicited the information that in the important Colonial centers of Albany, Annapolis, Baltimore, New York, Philadelphia, Providence, Richmond, Salem and Williamsburg, Va., nothing had ever been done by the municipalities themselves toward the preservation or restoration, not to mention the publication of their landmarks; and this list included only nine cities. This con-

tains little promise for the maintenance of our characteristic old buildings, unless something decisive is done without further delay. Surely these negative reports from nine of the most important Colonial cities is sufficiently damaging testimony against official neglect and popular disinterestedness, for all early structures now perfectly preserved owe their good condition to patriotic, historical and similar public spirited societies—witness Independence Hall in Philadelphia or Fraunce's Tavern in New York.

In all fairness due credit must be given to the splendid results achieved by the Municipal Art Commission of New York City, aided by the Hon. George McAneny, as President of the Borough of Manhattan and as President of the Board of Aldermen, and also by Mrs. Russell Sage to the extent of a donation of at least \$25,000, in the restoration of the dome and the various interiors of New York's effective City Hall. This graceful structure has stood at the vortex of many a political hurricane. As a result it has accumulated a number of Early Tweed and Mid-Tammany accretions in the way of quasi artistic embellishments at the hands of party henchmen. All such alleged improvements have now been industriously removed and the interior of the building appears once more in its pristine simplicity. The chaste decorative scheme has been eked out by a gift of genuine early furniture from Mr. Robert W. de Forest, President of the Metropolitan Museum of Art, with the result that the present condition of the City Hall may be said more nearly to approximate the dream of old John McComb than the completed structure as he himself left it; for his work on the building was continuously vexed by the unremitting struggle to resist a multitude of paltry attempts to modify or otherwise intrude upon his carefully restrained design—witness, for instance, the egregious effort at misdirected economy in the brown stone north front, now fortunately painted over.

(To be continued.)



- Old English Mansions. Depicted by C. J. Richardson, J. D. Harding, Joseph Nash, H. Shaw and others. Edited by Charles Holme. With 34 pp. of text and 65 full page plates. New York: The Studio, Ltd. (John Lane Co.) \$3 net.
- The Pittsburgh Survey. Edited by Paul Underwood Kellogg. Findings in six volumes. "The Pittsburgh District Civic Frontage." Ill., 8vo, 515 p., index. "Wage Earning, Pittsburgh." Ill., 8vo, 526 p., index. New York: Survey Associates, Inc. \$2.50 net per volume.
- Stability of Masonry and Other Structures Subject to the Pressure of Earth and Water. By Ernest H. Sprague, assistant at University College, London (Broadway Series of Engineering Handbooks, vol. xvii). Ill., 12mo, 163 p., index. London: Scott, Greenwood & Son. New York: D. Van Nostrand Co. \$1.50 net.
- Electric Wiring Specification. By J. H. Montgomery, E. E., professor of physics and electrical engineering in the University of Southern California. 12mo, 133 p., index. New York: D. Van Nostrand Co. \$1.00 net.
- Year Book of the New York Society of Architects, 1915. 8vo, 240 p., index. William T. Towner, secretary, 366 Fifth avenue. \$5.
- Annual Report of the Department of City Transit of the City of Philadelphia for 1914. Ill., 8vo, 322 p., with 80 maps. Issued by the City of Philadelphia.
- A Book of Bridges. By Frank Brangwyn, A. R. A., and Walter Shaw Sparrow. Large 8vo, 368 p., index and glossary. 35 color plates and 36 black and white ills. New York: John Lane Co. \$6 net.
- American Country Houses of Today. An Illustrated Account of Some Excellent Houses Built and Gardens Planted During the Last Few Years Showing Unmistakable Influence of the Modern Trend in Ideal Architecture. By Samuel Howe, author of "Indoors," "Bronze, the Eternal," etc. Ill., 4to, 421 p., index. New York: The Architectural Book Publishing Co. \$10 net.
- Report of Olmstead Brothers on a Proposed Parkway System for Essex County, New Jersey. Pamphlet. 84 p., with map. Newark: Essex County Park Commission, Alonzo Church, secretary.
- The History of the Dwelling House and Its Future. By Robert Ellis Thompson, LL.D., Principal Philadelphia High School. Ill., 12mo, 172 p., index. Philadelphia: J. B. Lippincott Co. \$1 net.
- Lithography and Lithographers. Some Chapters in the History of the Art by Elizabeth Robins Pennell, together with Descriptions and Technical Explanations of Modern Artistic Methods by Joseph Pennell, President of the Senefelder Club. Ill., 4to, 307 p., index. New York: The Macmillan Co. \$4.50.
- Projective Ornament. By Claude Bragdon. Ill., 8vo, 79 p. Rochester, N. Y. The Manas Press. \$1.50.
- General Specifications for Concrete Work as Applied to Building Construction. By William J. Watson, A. S. C. E. Ill., pamphlet, 52 p., 2d edition. McGraw-Hill Book Co. \$1.00.
- Famous Buildings: A Primer of Architecture. By Charles L. Barstow, author of "Famous Pictures," etc. Ill., 12mo., 240 p., index. New York: The Century Co. 60 cts.
- "The Studio" Year-Book of Decorative Art. A review of the latest developments in the artistic construction, decoration and furnishing of the house. 1915. Ill., 4to., 239 p. New York: John Lane Co. \$3.
- Materials of Construction: Their Manufacture, Properties and Uses. By Adelbert P. Mills, Assistant Professor of Materials, College of Civil Engineering, Cornell University. Ill., 8vo, 658 p., index. New York: John Wiley & Sons, Inc. \$4.50.
- A Treatise on Hand Lettering for Engineers, Architects, Surveyors and Students of Mechanical Drawing. By Wilfrid J. Lineham, head of the Engineering Department, University of London—Goldsmiths' College. 282 p. New York: E. P. Dutton & Co. \$3.50 net.
- The Architecture of Colonial America. By Harold Donaldson Eberlein. Ill., 8vo, 274 p., index. Boston: Little, Brown & Co. \$2.50 net.
- First Annual Report of the City Plan Commission, Providence, R. I., January 4, 1915. Ill., 8vo, pamphlet, 48 p.



Cleveland Civic Center.

The city of Cleveland has undertaken with much vigor and address the completion of its great civic center, a project now nearly fifteen years old as a tangible plan, although the first suggestion for the scheme dates from 1897. Cleveland's population, progress and municipal pride had long outstripped its actual building activity in the way of public structures, when the question of a city center was first broached. As usual, the heart of the city was the expensive district, and the necessary processes of condemnation and litigation with their concomitant expense and petty intrigue required much time for settlement. Public spirit was strong and business men were interested; and, finally, with the co-operation of the federal government and the assistance of a formidable commission on which served such men as Burnham, Carrère and Brunner a square of immense proportions was created. This will ultimately take its place as one of the finest in the country. Provision was made at the outset for a Federal Building to contain quarters for a post office and for national courts, as well as to offer accommodations for customs officials; for a County Court House, a City Hall and a Public Library. The designs for the first of these buildings had already been approved before the general matters of the arrangement of the center, especially with reference to its frontage on Lake Erie, had been determined. The tracks of the New York Central and of the Lake Shore and Michigan Southern lines interfered with the project of including the shore of the lake, with the necessary park space and recreation areas, as a logical northern termination of the center. The experience of Mr. Burnham in the general practice of city planning found the altogether adequate expedient of offering the railroad the opportunity of contributing to the building of the group by placing its station at the shore end. This structure would be of sufficient size

and dignity to take its proper position in a monumental city plan. The solution is characteristic of the type of problem most frequently met by the city planner, that of bending existing buildings, streets, railroads, as well as all other evidences of man's habitation, to the ends of the improved plan.

Within the last few months it was decided to build the Public Library, which is to be a monumental structure balancing the Federal Building at the southern end of the center, and will be erected at a cost of about two million dollars. Professor A. D. F. Hamlin, of the School of Architecture at Columbia University, has been appointed advisory architect by the Cleveland Public Library Board. He has been given authority to call for a preliminary competition among a chosen group of twelve architects—selected from those who have applied as eligible competitors—or else to choose three architects to enter a final competition without preliminaries.

Sir Robert Smirke.

Of particular interest in connection with the opening of Dr. Burnet's recent addition to the British Museum is the following opinion of a British architectural weekly which has been granting considerable space to a series of monographs on great architects. Sir Robert Smirke, the author of the original design for the Museum, was imbued with a civic sense second only to that of that architectural giant Wren himself, although he came at a less propitious time. Says the *Architect's and Builder's Journal*: "What Smirke gave to London was a new and distinctive note—a low and sombre note; . . . however 'dull' and uninteresting his buildings may be declared to be, there can be no doubt that the interest of London as a whole has been increased thereby. He was one of those rare architects who continually had in mind the vision of a city. His offices, theatres and clubs . . . have a greater

scale and dignity than the shops or private houses that surround them, so they are sufficiently differentiated from these; but, on the other hand, they do not show any of the features usually held to be distinctive of churches or town-halls. It is unfortunate that this tradition of reticence was interrupted by the Gothic Revival, which gave us Law Courts bristling with steeples, and which so successfully banished the idea of a city from the minds of architects that long after they had begun to practise in the Renaissance manner, they continued to add domes and towers to every building to which these adornments could possibly be appended."

Gedney Farms.

Castles on the Rhine and châteaux on the Loire have been translated into terms of modern residential requirements and the gap between the ages closed without exciting com-

ment. City palaces have been readily transformed into museums and at the moment city halls are daily doing duty as barracks. Yet we have nowhere come upon such a piece of architectural witchery as that accomplished by Mr. Kenneth M. Murchison in the Gedney Farm Hotel at White Plains.

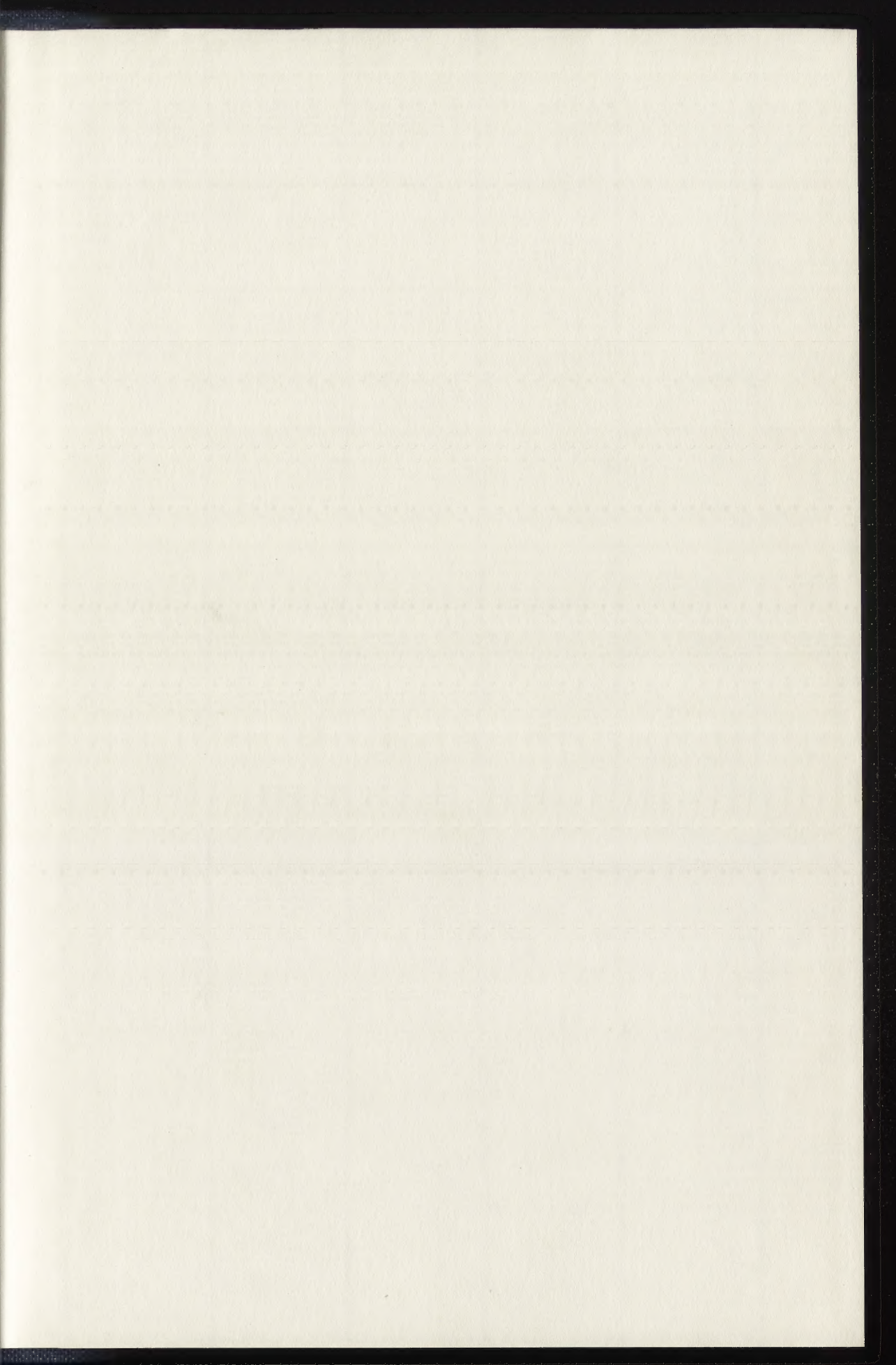
The game of model farming is one of noble lineage. It has been a favorite sport of kings and their consorts and it is played daily by those who have, if not the blood, at least the fabled wealth of the old kings. Our best historic example is that of Marie Antoinette and her satellites frittering away the taxes of an over-burdened France in the *hameau* at Versailles. Perhaps the best modern case of the same mania was Gedney Farms. Advisedly we say *was*, for the miracle of transformation has lately divested the farm of its cattle and barns, silos and odors, and invested it with the perfectly contrived conveniences of a modern country hotel. The owner of Gedney Farms had not the resources of a nation of tax-payers to fall back upon; he was a model farmer, but with all the instincts of the garden variety of farmer. Gedney Farms did not pay; the golden egg of the story took on a semblance of reality. But since the public does not favor golden eggs, the model farmer bethought himself of elimi-

nating not only hens, but also horses and the entire paraphernalia of the farm, and of melting down the golden egg for use as legal tender. The farm buildings had been finely built; the solidity of concrete and the spaciousness of stables and granaries suggested themselves at once as the possible nucleus for a hotel. To Mr. Murchison's efforts is due the interpretation of the scheme, the clever adaptation of the old structures and the completion of the whole work in the record time of six months. The significance of the time limit allowed becomes apparent when we note that the buildings extend over a frontage of about eight hundred feet, that there are five thousand square feet of tiles and glass enclosed piazzas, that accessory structures for the purposes of swimming pool and billiard rooms had to be erected, and the whole of each feature entirely refitted in its interior. The architect is to be credited with a splendid success.

The main body of the plan is U-shaped; a spacious garden fills the opening between its arms. This and the surrounding elevations give to a certain extent the impression of the southwestern or Mexican patio. The broad U of the plan contains at its base or north side the large public hall or lobby, preceded by a covered porch and pergola flanked by circular features, now resembling turrets of the approved French fashion, but originally constructed as thoroughly serviceable silos. The central space of the lobby is open through all floors to the roof, the opening enclosed by galleries on the various levels giving access to chambers. The east branch of the U contains the ball room and other public rooms and a number of bedrooms. A covered passage leads to new buildings enclosing space for billiards, winter tennis, bowling and swimming accommodations, while the service quarters, kitchens, laundry and garage are isolated in the west branch.

The lobby itself, the original dairy barn, is finished in grey woodwork with tiled floor. The bedrooms occupy the space formerly assigned to hay lofts. In similar manner Mr. Murchison's wand has converted the feed room into a dining room, bull pens into ball room, cow stables into grill, and pig sty into bowling alley. It is well that the owner gave the architect free rein in planning Gedney Farm Hotel.

R. F. B.



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